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DEPARTMENT OF
WATER RESOURCES

Idaho Transfer Application Package

PACIFICORP
A BERKSHIRE HATHAWAY ENERGY COMPANY

Dry Canyon Pumped Storage Project

Idaho Water Right Nos. 11-248, 11-249, 11-250, and 11-251
(Which correspond to Utah Water Right No. 23-3929)



November 22, 2021

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SHORT TABLE OF CONTENTS

SHORT TABLE OF CONTENTS i
INDEX TO TABLES ii
INDEX TO MAPS ii
DETAILED TABLE OF CONTENTS iii
APPLICATION DOC #1: COVER LETTER FOR ITAP ix
APPLICATION DOC #2: APPLICATION FOR TRANSFER OF WATER RIGHT xiii
ATTACHMENT A SHORT NAMES AND DEFINITIONS 1
ATTACHMENT B NARRATIVE 13
ATTACHMENT C BASIN MAP 77
ATTACHMENT D OVERVIEW MAP 79
ATTACHMENT E PROJECT/HEREAFTER MAPS 81
ATTACHMENT F PINPOINT MAPS 93
ATTACHMENT G RESERVOIR DIMENSIONS AND VOLUMES 105
ATTACHMENT H DEPLETION AND ELEVATION IMPACT SUMMARY 107
ATTACHMENT I BEAR LAKE ELEVATIONS, SHOWING ASSOCIATED PTES, ETC. 109
ATTACHMENT J HISTORICAL BEAR LAKE ELEVATIONS FROM 1915 TO 2019 113
ATTACHMENT K PRE-TRANSFER RIGHTS (AS DISPLAYED IN IDWR DATABASE AND AS THEY COULD BE UPDATED) 115
ATTACHMENT L POST-TRANSFER RIGHTS 117
ATTACHMENT M PLSS LEGAL SUBDIVISIONS 121
ATTACHMENT N DESCRIPTION OF OTHER RIGHTS USED FOR SAME PURPOSE 127
ATTACHMENT O MITIGATION PLAN 133
ATTACHMENT P PACIFICORP CONTACT INFORMATION 143
ATTACHMENT Q DIETRICH DECREE 145
ATTACHMENT R KIMBALL DECREE 177
ATTACHMENT S AMENDED COMPACT 193
ATTACHMENT T THREE-STATE AGREEMENT: SYSTEM AGREEMENT 209
ATTACHMENT U THREE-STATE AGREEMENT: SYSTEM ADDENDUM 215
ATTACHMENT V THREE-STATE AGREEMENT: OPERATIONS AGREEMENT 217
ATTACHMENT W AMENDED BEAR LAKE SETTLEMENT 227
ATTACHMENT X BRC POSITION PAPER 239
ATTACHMENT Y IORNS, DOI REPORT 243
ATTACHMENT Z JIBSON, HISTORY OF COMPACT 287

INDEX TO TABLES

Table 1: Short names and definitions (Attachment A) 1
Table 2: Definitions for groups of Bear Lake Reservoir Decreed Rights (Attachment A) 11
Table 3: Reservoir dimensions and volumes (Attachment G) 105
Table 4: Depletion and elevation impact summary (Attachment H) 107
Table 5: Bear Lake elevations (Attachment I) 109
Table 6: Pre-transfer rights as now displayed in IDWR database (Attachment K) 116
Table 7: Pre-transfer rights as they could be updated in IDWR database (Attachment K) 116
Table 8: Post-transfer description of water rights (Attachment L) 118
Table 9: PLSS descriptions of PODs for Bear Lake Reservoir Decreed Rights (Attachment M) 122
Table 10: PLSS descriptions of other existing PacifiCorp facilities (not PODs) (Attachment M) 123
Table 11: PLSS descriptions for Dry Canyon Project (PODs and other facilities) (Attachment M) 124
Table 12: PacifiCorp's "Downriver Decreed Rights" (Attachment N) 127
Table 13: PacifiCorp's "Downriver Undecreed Rights" (Attachment N) 128
Table 14: Idaho's "Minimum Lake Level Right" (Attachment N) 129
Table 15: State Appropriation Applications (Attachment N) 129
Table 16: Sugar Company non-lapsed decreed Bear River rights (Attachment N) 130
Table 17: Rights issued to BRCC to replace lapsed Sugar Company right (Attachment N) 131

INDEX TO MAPS

Basin Map (Attachment C) 77
Overview Map (Attachment D) 79
Project/Hereafter Maps (Attachment E) 81
Pinpoint Maps (Attachment F) 93

DETAILED TABLE OF CONTENTS

SHORT TABLE OF CONTENTS i
INDEX TO TABLES ii
INDEX TO MAPS... ii
DETAILED TABLE OF CONTENTS iii
APPLICATION DOC #1: COVER LETTER FOR ITAP ix
APPLICATION DOC #2: APPLICATION FOR TRANSFER OF WATER RIGHT xiii
ATTACHMENT A SHORT NAMES AND DEFINITIONS 1
ATTACHMENT B NARRATIVE 13
I. Explanation of the ITAP and UCAP 13
II. Overview and Project description 13
A. Changes requested in this application 13
B. Project overview and function 14
C. Description of Project facilities 17
D. Potential alternative location for Lower Reservoir 19
E. Relationship of the Dry Canyon Project to other potential operational improvements in the Bear River System 19
F. Ownership of Project facilities and lands 20
G. FERC application for preliminary permit 21
III. Existing Bear Lake Facilities 21
A. Overview of existing facilities 22
B. Individual existing facilities descriptions 23
1. Stewart Dam 23
2. Rainbow Canal 24
3. Rainbow Canal Headgate 24
4. Ream-Crocket Canal (originally known as the Dingle Inlet Canal) 24
5. Ream-Crocket Canal Intake (originally known as Dingle Canal Diversion Dam) 25
6. Bear Lake Causeway Inlet 25

7. Outlet Canal and Outlet Canal Headgates 25
8. Lifton Pump Station 25
9. Mud Lake and Mud Lake Regulation Reservoir 26
10. Bear Lake 26
11. Measurement and gauging stations 26
IV. Background on PacifiCorp's Bear River System 27
A. Corporate organization and history 27
B. Description of Bear River System facilities 29
C. PacifiCorp's existing FERC licenses 31
V. The Compacts 31
VI. Dietrich and Kimball Decrees 32
VII. PacifiCorp's existing Bear Lake Reservoir Decreed Rights 37
A. As described in the IDWR's database 37
B. Points of diversion 37
C. Purposes of use 39
D. Places of use 39
E. Period of use 40
F. Quantity 40
VIII. Alternative ways of describing the effect of the transfer and the scope of the post-transfer rights 40
A. First alternative: Simple recognition of authority to operate the Dry Canyon Project 40
B. Second alternative: Detailed specification of water right elements 41
1. No new purposes of use 41
2. Possible new points of diversion or rediversion 42
(a) Diversion of water to fill the Upper Reservoir 42
(b) Storage in the Upper Reservoir 45

(c) Diversion of water from Mud Lake to initially fill the Lower Reservoir 45
(d) Storage in the Lower Reservoir 46
3. New places of use for the Dry Canyon Project 46
4. Volume of storage for the Dry Canyon Project 47
IX. Mitigation for downriver effects of depletions 47
X. Bear Lake elevation considerations 50
XI. Summary of contracts, agreements, and other obligations bearing on Bear River System operations 54
A. No change to existing obligations or operations 54
B. The move from Irrigation Reserve to higher PTEs 54
1. New upstream storage 55
2. Irrigation Reserve 56
3. PTEs 57
C. Three-State Agreements 59
1. System Agreement (1999) 59
2. Operations Agreement (2000) 60
D. Bear Lake Settlement Agreements (1995 & 2004) 61
E. Irrigation delivery contracts 63
XII. Whether any change or appropriation is required 64
A. Whether a change is required at all 64
B. If any new authorization for the Project is required, it may be obtained through a transfer of the Decreed Rights (without a new appropriation). 65
1. The right to transfer is a property right. 65
2. No change in quantity is required because PacifiCorp's Decreed Rights

already authorize it to divert and store virtually the entire flow of the Bear River. 66

3. The Decreed Rights may be read to include the places of use for the Project. 68

4. No new point of diversion is required. 70

C. If a transfer is required, it does not constitute an enlargement of the Decreed Rights. 70

1. PacifiCorp is not increasing the quantity 70

2. PacifiCorp is not increasing the extent or intensity of its beneficial use. 71

XIII. Jurisdiction under the Compact 74

A. Presumptive Idaho jurisdiction under the Amended Compact 74

B. Potential Utah jurisdiction or other administrative role 74

XIV. Filing fee 76

ATTACHMENT C BASIN MAP 77

ATTACHMENT D OVERVIEW MAP 79

ATTACHMENT E PROJECT/HEREAFTER MAPS 81

ATTACHMENT F PINPOINT MAPS 93

ATTACHMENT G RESERVOIR DIMENSIONS AND VOLUMES 105

ATTACHMENT H DEPLETION AND ELEVATION IMPACT SUMMARY 107

ATTACHMENT I BEAR LAKE ELEVATIONS, SHOWING ASSOCIATED PTES, ETC. 109

ATTACHMENT J HISTORICAL BEAR LAKE ELEVATIONS FROM 1915 TO 2019 113

ATTACHMENT K PRE-TRANSFER RIGHTS (AS DISPLAYED IN IDWR DATABASE AND AS THEY COULD BE UPDATED) 115

ATTACHMENT L POST-TRANSFER RIGHTS 117

ATTACHMENT M PLSS LEGAL SUBDIVISIONS 121

ATTACHMENT N DESCRIPTION OF OTHER RIGHTS USED FOR SAME PURPOSE 127

ATTACHMENT O MITIGATION PLAN 133

ATTACHMENT P PACIFICORP CONTACT INFORMATION 143

ATTACHMENT Q DIETRICH DECREE 145

ATTACHMENT R KIMBALL DECREE 177

ATTACHMENT S AMENDED COMPACT 193

ATTACHMENT T THREE-STATE AGREEMENT: SYSTEM AGREEMENT 209
ATTACHMENT U THREE-STATE AGREEMENT: SYSTEM ADDENDUM 215
ATTACHMENT V THREE-STATE AGREEMENT: OPERATIONS AGREEMENT 217
ATTACHMENT W AMENDED BEAR LAKE SETTLEMENT 227
ATTACHMENT X BRC POSITION PAPER 239
ATTACHMENT Y IORNS, DOI REPORT 243
ATTACHMENT Z JIBSON, HISTORY OF COMPACT 287

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APPLICATION DOC #1: COVER LETTER FOR ITAP

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DEPARTMENT OF
WATER RESOURCES

PACIFICORP

Pacific Power |
Rocky Mountain Power
1407 West North Temple
Salt Lake City, Utah 84116

November 22, 2021

Gary L. Spackman
Director
Idaho Department of Water Resources
The Idaho Water Center
322 E Front St, Ste. 648
Boise, ID 83702

Re: PacifiCorp's Application for Transfer of Water Rights for the Dry Canyon Pumped Storage Project, based on its Bear Lake Reservoir Decreed Rights, Water Right Nos. 11-248, 11-249, 11-250, and 11-251

Dear Mr. Spackman:

On behalf of PacifiCorp, I am pleased to submit for filing the Idaho Transfer Application Package ("ITAP"). The ITAP includes this cover letter, Application for Transfer of Water Right form including Minimum Requirements Checklist, and Attachments A through Z, together with cover page, tables of contents, and indexes.

This application is filed in support of PacifiCorp's proposed pumped storage project ("Dry Canyon Project" or "Project"). The Project will provide instantaneous backup supplies of clean hydroelectric energy. To store energy, the Project will pump water to an upper reservoir using a variety of other energy sources, including renewable energy and excess energy available on the regional power grid. That stored energy will provide grid resiliency while improving the reliability of intermittent solar and wind energy sources throughout the region.

Although the Dry Canyon Project is located entirely in Idaho, it relies on PacifiCorp's Bear Lake Reservoir Decreed Rights, which are decreed in both Idaho and Utah. In deference to the respective States and the Bear River Commission, PacifiCorp is simultaneously filing an Application for Permanent Change of Water (for Utah Water Right No. 23-3929) with the Utah Division of Water Rights. The Utah application is included within a compilation of application documents called the Utah Change Application Package ("UCAP"). The Idaho and Utah applications are functionally identical in that they seek the same authorization from the corresponding regulatory agency in each State.

PacifiCorp's Bear Lake Reservoir Decreed Rights authorize it to operate its existing Bear Lake Facilities in Idaho and Utah. If this application is approved, PacifiCorp will use those rights for the Dry Canyon Project, relying entirely on water already diverted and stored under those rights and already under PacifiCorp's control without any additional diversions from the Bear River. The Project's only effect on the water resource (a modest amount of evaporative loss and dead storage in the Upper Reservoir) will be fully mitigated.

The Project will not impair or adversely affect (1) the operation of PacifiCorp's facilities in Bear Lake, Mud Lake, or down river, (2) the availability or reliability of Bear Lake storage water to irrigators in Idaho and Utah, or (3) PacifiCorp's commitments and obligation to the States and various stakeholders.

If desired by the States, PacifiCorp is willing to explore broader opportunities for operational changes to the storage operations at Bear Lake in addition to the Dry Canyon Project. However, the Project has independent utility and can move forward irrespective of any other operational changes.

PacifiCorp welcomes and encourages regulatory entities, elected officials, and stakeholders in both States to participate and engage fully in the processing of both the ITAP and the UCAP.

For your convenience and that of other officials, staff, parties, and stakeholders in both Idaho and Utah, PacifiCorp will distribute electronic and/or bound, double-sided, tabbed courtesy copies of the ITAP and the UCAP.

Accompanying this submission is a filing fee in the amount of $35,220 (based on 6,000 cfs). Please see discussion of filing fees in the ITAP.

Sincerely,

Mark Sturtevant
Vice President, Renewable Resources
PacifiCorp Energy

Submitted with this letter:
Idaho Transfer Application Package
Filing fee in the amount of $35,220.00

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APPLICATION DOC #2: APPLICATION FOR TRANSFER OF WATER RIGHT

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DEPARTMENT OF WATER RESOURCES

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. _____

MINIMUM REQUIREMENTS CHECKLIST
TO BE SUBMITTED WITH APPLICATION FOR TRANSFER

An application for transfer must be prepared in accordance with the minimum requirements listed below to be acceptable for processing by the Department. Incomplete applications will be returned. The instructions, fee schedule, Part 2A reports and additional Part 2B forms are available from any Department office or on the Department's website at idwr.idaho.gov.

Name of Applicant(s) PacifiCorp

Check whether each item below is *attached* (Yes) or *not applicable* (N/A) for the proposed transfer.

Yes	N/A		
		*	Means the item is always required and must be included with the application.
☑		*	Completed Application for Transfer of Water Right form, Part 1.
☑		*	Signature of applicant(s) or applicant's authorized representative on Application for Transfer Part 1. Include evidence of authority labeled Attachment #3 (see below) if signed by representative.
☑		*	Application for Transfer Part 2A. ~~Attach a Part 2A report describing each water right in the transfer as currently recorded.~~ Decrees included in Attachments Q & R.
☐	☑		Complete and attach an Application for Transfer Part 2B for each water right for which only a portion is proposed to be changed through this transfer application.
☑		*	Application for Transfer Part 3A is always required (see Attachment #7a below); Parts 3B and 3C must be completed for transfer applications proposing to change the nature of use of the water right(s) or proposing changes to supplemental right(s).
☑		*	Correct fee submitted with transfer application form. (Fee schedule is on website and instructions for application for transfer.)

Attachments to Application - Label each attachment with the corresponding number shown below as Attachment #1-10.

☐	☑	#1	If the applicant is a business, partnership, organization, or association, and not currently registered in the State of Idaho as a business entity, attach documentation identifying officers authorized to sign or act on behalf of right holder. (See Part 1.)
☐	☑	#2a	Water Right ownership documentation if Dept. records do not show the applicant as the current water right owner. **
☐	☑	#2b	If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s).** ** Additional fee(s) required for water right ownership changes; see fee schedule.
☐	☑	#3	Documentation of authority to make the change if the applicant is not the water right owner.
☐	☑	#4	Power of Attorney or documentation providing authority to sign or act on the applicant's behalf. (See Part 1.)
☐	☑	#5	If the transfer application proposes to change the point of diversion for a water right affecting the Eastern Snake Plain Aquifer (ESPA), attach the results of an ESPA analysis and a detailed mitigation plan to offset any depletions to hydraulically connected reaches of the Snake River. ESPA transfer spreadsheet and model grid labeled cells are available on the Department's website at idwr.idaho.gov/water-rights/transfers/resources.html.
☐	☑	#6	Notarized statement of agreement or a statement on official letterhead signed by an authorized representative from each lien holder or other entity with financial interest in the water right(s) or land affected by the proposed transfer. (See Part 1.5.c.)
☑		#7a	Attach a map identifying the proposed point(s) of diversion, place(s) of use, and water diversion and distribution system details as described on the application. Include legal description labels. If only a portion of the right is proposed to be changed, identify the current location of the part of the existing right(s) proposed to be changed. (See Part 3A.)
☐	☑	#7b	If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. If some or all of any right is leased to the Water Supply Bank, you must also show the the specific location and/or acres to be idled at the new, proposed place of use to satisfy lease requirements.
☐	☑	#8a	If the transfer application proposes to change the nature of use or period of use for one or more rights, provide documentation describing the extent of historic beneficial use for the water rights proposed to be transferred and document how enlargement will be avoided. (See Part 3B.) Additional fee required for proposed changes to nature of use; see fee schedule.
☐	☑	#8b	If the transfer application proposes to change the place of use of a supplemental irrigation right, provide documentation regarding the historic use of the supplemental right(s) and availability or reliability of the primary right(s) being supplemented, both before and after the proposed change. (See Part 3C.)
☐	☑	#9	Water Supply Bank information for all rights proposed for transfer and currently leased to the Bank. (Attachment WSB)
☑	☐	#10	Other. Please describe: Attachments A through Z are hereby incorporated by reference into PacifiCorp's transfer application.

Page 1 of Transfer No. _____

85695

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1

Name of Applicant(s) PacifiCorp Phone 801-220-2552

Mailing address 1407 W North Temple, Ste 110, Salt Lake City, UT 84116 Email mark.sturtevant@pacificorp.com

☐ If applicant is not an individual and not registered to do business in the State of Idaho, attach documentation identifying officers authorized to sign or act on behalf of the applicant. Label it **Attachment #1**.

☐ Attach water right ownership documentation if Department records do not show the transfer applicant as the current water right owner. Label it **Attachment #2a**.

☐ If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s). Label it **Attachment #2b**.

☐ Attach documentation of authority to make the proposed change if the applicant is not the water right owner. Label it **Attachment #3**.

Provide contact information below if a consultant, attorney, or any other person is representing the applicant in this transfer process.

☐ No Representative

Name of Representative Christopher H. Meyer, Givens Pursley LLP Phone 208-388-1236

Mailing address 601 W Bannock St, Boise, ID 83702 Email chrismeyer@givenspursley.com

☐ Send all correspondence for this application to the representative and not to the applicant.
OR
☑ Send original correspondence to the applicant and copies to the representative.

☑ The representative may submit information for the applicant but is not authorized to sign for the applicant.
OR
☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation providing authority to sign for the applicant and label it **Attachment #4**.

I hereby assert that no one will be injured by the proposed changes and that the proposed changes do not constitute an enlargement in use of the original right(s). The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.

Mark Sturtevant — Signature of Applicant or Authorized Representative

Mark Sturtevant, VP, Renewable Res. — Print Name and Title if applicable

Nov. 22, 2021 — Date

Signature of Applicant or Authorized Representative

Print Name and Title if applicable

Date

A. PURPOSE OF TRANSFER

See Attachment B (Narrative).

1. ☐ Change point of diversion ☑ Add diversion point(s) ☑ Change place of use
   ☐ Change nature of use ☐ Change period of use ☐ Other _____

2. Is this a transfer for changes pursuant to Idaho Code § 42-221.O.8?
   If yes, ☐ attach an explanation and any supporting documentation labeled as **Part1A.2**.

3. Describe your proposal in narrative form, including a detailed description of non-irrigation uses to justify amounts transferred (i.e. number of stock, etc.), and provide additional explanation of any other items on the application. Attach additional pages if necessary and label it **Part 1A.3**.
   See in particular Attachment B, § II (Overview and Project description). All of the Attachments A through Z provide further background information and are hereby incorporated by reference.

Rev. 07/18

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

B. DESCRIPTION OF RIGHTS AFTER THE REQUESTED CHANGES. IF THE RIGHTS ARE BEING SPLIT, DESCRIBE PORTIONS TO BE CHANGED AS THEY WOULD APPEAR AFTER THE REQUESTED CHANGES.

1.

All or Part	Right Number	Amount (cfs/ac-ft)	Nature of Use	Period of Use	Source & Tributary
☐ ☐				to	
☐ ☐					
☐ ☐					
☐ ☐					
☐ ☐					
☐ ☐					
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	

See Attachment L, Table 8 (Post-transfer description of water rights).
Also see Attachment B, § VIII (Alternative ways of describing the effect of the transfer and the scope of the post-transfer rights).

Total authorized under rights _____ cfs and/or _____ acre-feet.

2. Total amount of water proposed to be transferred or changed _____ cubic feet per second and/or _____ acre-feet per year.

3. Point(s) of Diversion:

☐ No changes to point(s) of diversion are proposed - the following chart is therefore not completed. (Proceed to #4.)
☐ Attach Eastern Snake Plain Aquifer analysis if this transfer proposes to change a point of diversion affecting the ESPA. Label it **Attachment #5**.

New ?	Lot	¼	¼	¼	Sec	Twp	Rge	County	Source	Local name or tag #

See Attachment M, Table 9 (PLSS descriptions of PODs for Bear Lake Reservoir Decreed Rights) & Table 11 (PLSS descriptions for Dry Canyon Project); Attachment L, Table 8 (Post-transfer description of water rights), Attachment B, § VIII.B.2 (Possible new points of diversion or rediversion).

4. Place of use: (If irrigation, identify with number of acres irrigated per ¼ ¼ tract.)

☐ No changes to place of use are proposed - the following chart is therefore not completed. (Proceed to #5.)

Twp	Rge	Sec	NE ¼				NW ¼				SW ¼				SE ¼				Acre Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
Total Acres (for irrigation use)																			

See Attachment L, Table 8 (Post-transfer description of water rights); Attachment B, § VIII.B.3 (New places of use for the Dry Canyon Project).

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STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

5. General Information:

a. Describe the complete diversion system, including how you will accommodate a measuring device and lockable controlling works should they be required now or in the future:
See "Narrative", Attachment B, § II.C (Description of Project facilities) and § III (Existing Bear Lake Facilities).

b. Who owns the property at the point(s) of diversion? PacifiCorp; USFWS; BLM
If other than the applicant, describe the arrangement enabling the applicant to access the property for the diversion system:
PacifiCorp holds fee title or easement rights to the land associated with the existing PODs. See Attachment B, § II.F (Ownership of Project facilities and lands) regarding authorizations to be acquired for Dry Canyon Project.

c. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts?
If yes, ☐ attach a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes on official letterhead signed by an authorized representative. Label it **Attachment #6**. List the name of the entity and type of lien: n/a

It is the applicant's responsibility to provide notice to lien holder, trustee, mortgagor, or contract holder of the proposed changes that may impact or change the value of the water rights or affected real property. Any misrepresentation of legal encumbrance on this application may result in rejection of the application or cancellation of an approval.

d. Are any of the water rights proposed for transfer currently leased to the Water Supply Bank?
If yes, ☐ complete Attachment WSB.

e. Describe the effect on the land now irrigated if the place or purpose of use is changed pursuant to this transfer:
n/a

f. Describe the use of any other water right(s) for the same purpose or land, or the same diversion system as right(s) proposed to be transferred at both the existing and proposed point(s) of diversion and place(s) use:
See Attachment N (Description of other rights used for same purpose).

g. To your knowledge, has/is any portion of the water right(s) proposed to be changed:

Yes No

☐ ☑ undergone a period of five or more consecutive years of non-use,
☐ ☑ currently leased to the Water Supply Bank,
☐ ☑ currently used in a mitigation plan limiting the use of water under the right, or
☐ ☑ currently enrolled in a Federal set-aside program limiting the use of water under the rights?

If yes, describe:
n/a

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT

PART 2

In lieu of Part 2A reports, see Attachments Q & R (copies of *Decrees*) and Attachment K, Tables 6 & 7. See also Attachment B, § VII (Bear Lake Reservoir Decreed Rights).

A. DESCRIPTION OF RIGHT(S) AS RECORDED

For each water right listed in Part 1B.1 of the application, attach a **Part 2A** report obtained from any Department office or from the Department's website @ idwr.idaho.gov, Water Right Transfers, Step 1.
Insert Part 2A reports into the application following Part 1.

B. IF ONLY A PORTION OF THE RIGHT IS PROPOSED TO BE CHANGED, DESCRIBE THE PORTION BEING CHANGED AS IT APPEARS BEFORE THE REQUESTED CHANGES

☐ Complete and attach one copy of Part 2B for each right for which only a portion is proposed to be changed. If the entire right is proposed to be changed, Part 2B is not applicable. Additional copies of the **Part 2B** form can be obtained from any Department office or from the Department's website @ idwr.idaho.gov, Water Right Transfers, Step 3, or Water Right Forms, Changes in Use. Insert completed Part 2B forms into the application following Part 2A of the same water right.

Right Number: n/a

1. amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
   amount ______ (cfs/ac-ft) for ______ purposes from ______ to ______
2. Lands irrigated or place of use: (If irrigation, identify with number of acres irrigated per ¼ ¼ tract.)

Twp	Rge	Sec	NE ¼				NW ¼				SW ¼				SE ¼				Acre Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	

Total Acres (for irrigation use) N/A

Rev. 07/18

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT

PART 3

In lieu of Attachment #7a referenced below, see maps in Attachments C through F.

A. PLAT MAP (See Part 3A of Instructions for application for transfer for complete requirements.)

☑ Attach a map of the diversion, measurement, control, and distribution system. Label it **Attachment #7a**.

☐ If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. Label it **Attachment #7b.**

If the place of use currently consists of a permissible place of use, then the attachment is not required if the application contains a clear statement that the boundaries for the place of use are not proposed to be changed by the transfer and the total number of irrigated acres within the place of use before and after the transfer is clearly stated.

If any part of the irrigation water right is leased to the Water Supply Bank, you must also specify the location and number of acres that will remain idled for the duration of the lease contract at the new, proposed place of use.

B. CHANGES IN NATURE OF USE (Water Balance)

☐ If you propose to change the nature of use or period of use of all or part of the rights(s) listed in this application, attach documentation describing the extent of historic beneficial use of the portion of the right(s) proposed to be changed. Also attach documentation showing that the portion of the right(s) to be changed will not be enlarged in rate, volume, or consumptive use through the proposed change. Label it **Attachment #8a**.

C. PLACE OF USE CHANGES TO SUPPLEMENTAL IRRIGATION RIGHTS

☐ If you propose to change the place of use of a supplemental irrigation right, answer below and attach supporting documentation. Label it **Attachment #8b**.

Describe how the supplemental water rights have been used historically in conjunction with other water rights at the existing place of use. Describe the time during the irrigation season that the supplemental rights have been used. Include information about the availability or reliability of the primary right(s) being supplemented, both before and after the change. If the applicant is proposing to change a supplemental irrigation right to a primary right, provide the information required on Part 3B above:

n/a

FOR DEPARTMENT USE ONLY

Transfer contains _____ pages and _____ attachments.

Received by _____ Date _____ Preliminary check by _____ Date _____

Fee paid $35,220.00 Date 11/22/21 Receipted by CM Receipt # C111360

Add'l fee paid _____ Date _____ Receipted by _____ Receipt # _____

Check all that apply: Attachment WSB ☐ (copy sent to state office) Lessor Designation form ☐ &/or W-9 ☐ (originals to state office)

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Rev. 07/18

RECEIVED
NOV 22 2021
DEPARTMENT OF WATER RESOURCES

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. 85695

MINIMUM REQUIREMENTS CHECKLIST
TO BE SUBMITTED WITH APPLICATION FOR TRANSFER

An application for transfer must be prepared in accordance with the minimum requirements listed below to be acceptable for processing by the Department. Incomplete applications will be returned. The instructions, fee schedule, Part 2A reports and additional Part 2B forms are available from any Department office or on the Department's website at idwr.idaho.gov.

Name of Applicant(s) PacifiCorp

Check whether each item below is *attached* (Yes) or *not applicable* (N/A) for the proposed transfer.

Yes	N/A		
		*	Means the item is always required and must be included with the application.
☑		*	Completed Application for Transfer of Water Right form, Part 1.
☑		*	Signature of applicant(s) or applicant's authorized representative on Application for Transfer Part 1. Include evidence of authority labeled Attachment #3 (see below) if signed by representative.
☑		*	Application for Transfer Part 2A. ~~Attach a Part 2A report describing each water right in the transfer as currently recorded.~~ Decrees included in Attachments Q & R.
☐	☑		Complete and attach an Application for Transfer Part 2B for each water right for which only a portion is proposed to be changed through this transfer application.
☑		*	Application for Transfer Part 3A is always required (see Attachment #7a below); Parts 3B and 3C must be completed for transfer applications proposing to change the nature of use of the water right(s) or proposing changes to supplemental right(s).
☑		*	Correct fee submitted with transfer application form. (Fee schedule is on website and instructions for application for transfer.)

Attachments to Application - Label each attachment with the corresponding number shown below as Attachment #1-10.

☐	☑	#1	If the applicant is a business, partnership, organization, or association, and not currently registered in the State of Idaho as a business entity, attach documentation identifying officers authorized to sign or act on behalf of right holder. (See Part 1.)
☐	☑	#2a	Water Right ownership documentation if Dept. records do not show the applicant as the current water right owner. **
☐	☑	#2b	If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s).** ** Additional fee(s) required for water right ownership changes; see fee schedule.
☐	☑	#3	Documentation of authority to make the change if the applicant is not the water right owner.
☐	☑	#4	Power of Attorney or documentation providing authority to sign or act on the applicant's behalf. (See Part 1.)
☐	☑	#5	If the transfer application proposes to change the point of diversion for a water right affecting the Eastern Snake Plain Aquifer (ESPA), attach the results of an ESPA analysis and a detailed mitigation plan to offset any depletions to hydraulically connected reaches of the Snake River. ESPA transfer spreadsheet and model grid labeled cells are available on the Department's website at idwr.idaho.gov/water-rights/transfers/resources.html.
☐	☑	#6	Notarized statement of agreement or a statement on official letterhead signed by an authorized representative from each lien holder or other entity with financial interest in the water right(s) or land affected by the proposed transfer. (See Part 1.5.c.)
☑		#7a	Attach a map identifying the proposed point(s) of diversion, place(s) of use, and water diversion and distribution system details as described on the application. Include legal description labels. If only a portion of the right is proposed to be changed, identify the current location of the part of the existing right(s) proposed to be changed. (See Part 3A.)
☐	☑	#7b	If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. If some or all of any right is leased to the Water Supply Bank, you must also show the the specific location and/or acres to be idled at the new, proposed place of use to satisfy lease requirements.
☐	☑	#8a	If the transfer application proposes to change the nature of use or period of use for one or more rights, provide documentation describing the extent of historic beneficial use for the water rights proposed to be transferred and document how enlargement will be avoided. (See Part 3B.) Additional fee required for proposed changes to nature of use; see fee schedule.
☐	☑	#8b	If the transfer application proposes to change the place of use of a supplemental irrigation right, provide documentation regarding the historic use of the supplemental right(s) and availability or reliability of the primary right(s) being supplemented, both before and after the proposed change. (See Part 3C.)
☐	☑	#9	Water Supply Bank information for all rights proposed for transfer and currently leased to the Bank. (Attachment WSB)
☑	☐	#10	Other. Please describe: Attachments A through Z are hereby incorporated by reference into PacifiCorp's transfer application.

85695

Idaho Department of Water Resources Receipt

Receipt ID: C111360

Payment Amount	$35,220.00	Date Received	11/22/2021	Region	STATE
Payment Type	Check	Check Number	3628386		
Payer	PICIFICORP				
Comments	APPLICATION FOR TRANSFER OF WATER RIGHTS WR # 11-248, 11-249, 11-250, AND 11-251 WHICH CORRESPONDS TO UTAH WATER RIGHT NO> 23-3929 FOR: PACIFICORP				

Fee Details

Amount	Description	PCA	Fund	Fund Detail	Subsidiary	Object
$35,220.00	TRANSFERS	56105	0229	21		1155

Signature Line (Department Representative)

85695

Attachment A SHORT NAMES AND DEFINITIONS

Note:

See Table 2 on page 11 of this Attachment A for definitions of groups of water rights.

Table 1: Short names and definitions

Short Name	aka	Full Name or Explanation
Advisory Committee	Bear Lake Preservation Advisory Committee	Bear Lake Preservation Advisory Committee (established by the Bear Lake Settlement Agreements, consisting of representatives of Company Irrigators, Small Irrigators, Bear Lake Group, Bear River Commission, PacifiCorp, and the three States)
AF		acre-feet
AFY		acre-feet per year
Amended Bear Lake Settlement		Amended and Restated Bear Lake Settlement Agreement (7/2/2004) (reproduced in Attachment W on page 227)
Amended Compact	Amended Bear River Compact or Compact	Bear River Compact As Amended, Pub. L. No. 96-189, 94 Stat. 4 (2/8/1980) (reproduced in Attachment S on page 193)
Army Corps		U.S. Army Corps of Engineers
Basin Map		This is a map reproduced from *Impacts on Bear River Storage under Alternative High-Runoff Management Operations*, issued by representatives of Idaho, Utah, PacifiCorp, and the University of Colorado on December 20, 2020. A copy is set out in Attachment C on page 77.
Bear Lake Causeway		A low natural landform (which has been raised and reinforced) along the north end of Bear Lake that separates Bear Lake from Mud Lake
Bear Lake Causeway Inlet	Causeway Water Regulating Dam or Causeway Inlet or Bear Lake Inlet Gates or Bear Lake Inlet	Water from Mud Lake may be conveyed by gravity into Bear Lake by lifting the gates at the Bear Lake Causeway Inlet. The inlet is bi-directional. In rare cases, water from Bear Lake may be conveyed by gravity into Mud Lake. The Bear Lake Causeway Inlet is described in Attachment M, Table 9 on page 122 and Attachment B, section III.B.6 on page 25.
Bear Lake Reservoir Decreed Rights	Decreed Rights	These are the water rights owned by PacifiCorp for the Bear Lake Facilities. See Attachment A, Table 2 on page 11.

Short Name	aka	Full Name or Explanation
Bear Lake elevation adjustment condition	Elevation adjustment condition	This is a proposed condition discussed in Attachment B, section X on page 50.
Bear Lake Facilities		The "Bear River System" is composed of the "Bear Lake Facilities" and the "Downriver Facilities." The Bear Lake Facilities are the existing facilities used by PacifiCorp today to divert water from Bear River and to store and release water from the Bear Lake Reservoir (Bear Lake and Mud Lake). The Bear Lake Facilities include Stewart Dam, Rainbow Canal, Rainbow Canal Headgate, Ream-Crocket Canal Intake, Ream-Crocket Canal, Bear Lake Causeway Inlet, Outlet Canal, Outlet Canal Headgates, and Lifton Pump Station. The Bear Lake Facilities include Bear Lake Reservoir itself (Bear and Mud Lakes).
Bear Lake Group		A group of entities identified in the Bear Lake Settlement Agreements
Bear Lake Preservation Advisory Committee	Advisory Committee	See "Advisory Committee"
Bear Lake Reservoir		The term "Bear Lake Reservoir" is used in the Decrees to describe the combined operation of Bear Lake and Mud Lake. Dietrich Decree § I(2), p. 7; Dietrich Decree § II(1), p. 14; Kimball Decree § II(1), p. 10.
Bear Lake Reservoir Equivalent Elevation		As defined by the Amended Compact, this is the elevation Bear Lake would attain if all then-present water volume in Mud Lake were moved into Bear Lake. This is used to determine if upstream storage is restricted (when the equivalent elevation is below 5,911.0).
Bear Lake Settlement Agreements		Collectively, Original Bear Lake Settlement (4/10/1995) and Amended Bear Lake Settlement (7/2/2004)
Bear Lake Watch		A citizens group whose stated mission is to preserve and protect Bear Lake. Bear Lake Watch was a party to *Bear Lake Watch, Inc. v. FERC*, 324 F.3d 1071 (9th Cir. 2003) and the Amended Bear Lake Settlement.
Bear River Commission	BRC	The Bear River Commission was created in 1958 pursuant to the Bear River Compact. The Commission is composed of nine gubernatorial appointed Commissioners plus a Federal Commissioner appointed by the President.
Bear River Compacts	Compacts	Collectively, Original Compact and Amended Compact (used in a context where distinguishing between the two is not material or where the statement expressly encompasses both compacts)
Bear River Plan		Utah State Water Plan: Bear River Basin - Planning for the Future (1/31/2004)

Short Name	aka	Full Name or Explanation
Bear River System		The "Bear River System" is composed of the "Bear Lake Facilities" and the "Downriver Facilities." This includes all of PacifiCorp's existing facilities that divert water from Bear River, store water in the Bear Lake Reservoir, and deliver water downstream on the Bear River for irrigation and hydropower production.
BLM		Bureau of Land Management, within DOI
BM		The meaning of BM depends on context. BM is short for Boise Meridian (used in PLSS descriptions in Idaho). The Utah counterpart for the Boise Meridian is the Salt Lake Baseline and Meridian (SLBM). BM also refers to Benchmark (a monument or pin placed in the ground for surveying purposes and which may be used as the starting point in legal descriptions). The pinpoint locations of PODs included in the UCAP key off of a USGS Benchmark near Mud Lake identified as BM 28 FMK.
BOR	Bureau	Bureau of Reclamation, within DOI
BRC		Bear River Commission
BRC Position Paper		Bear River Commission, *Position and Policy Concerning New Significant Water Right Filings and Development on the Bear River* (4/16/2009) (copy set out in Attachment X on page 239)
BRCC		Bear River Canal Company
BRWUA		Bear River Water Users Association
cfs		cubic feet per second
Company Irrigators		This is a group of irrigators identified in the Bear Lake Settlement Agreements who were parties to the Bear Lake Litigation. See Attachment B, section XI.D (Bear Lake Settlement Agreements (1995 & 2004)), fn. 78 on page 61.
Compact	Amended Compact or Amended Bear River Compact	Bear River Compact As Amended, Pub. L. No. 96-189, 94 Stat. 4 (2/8/1980) (reproduced in Attachment S on page 193)
Compacts	Bear River Compacts	Collectively, Original Compact and Amended Compact (used in a context where distinguishing between the two is not material or where the statement expressly encompasses both compacts)
Decrees	Dietrich and Kimball Decrees	Collectively, the Dietrich Decree (7/14/1920) and the Kimball Decree (2/21/1922)
Department		The Idaho Department of Water Resources (IDWR)
Dietrich Decree		The decree itself is *Utah Power & Light Co. v. Last Chance Canal Co.*, Final Decree, Fed. Dist. Ct., D. Idaho (7/14/1920) (Dietrich, J.) (unreported) (reproduced in Attachment Q on page 145).

Short Name	aka	Full Name or Explanation
Dietrich Main Narrative		This is the detailed descriptive language for the Bear Lake Reservoir Decreed Rights found in the first two paragraphs of § I(2) of the Dietrich Decree, pp. 7-8. The Dietrich Main Narrative is contained within Attachment Q at pages 153-154.
Dietrich Schedule of Rights		Each of the Decrees contains a "Schedule of Rights" describing the elements of each decreed right. The relevant portion of the Schedule of Rights for the Dietrich Decree, § II, pp. 14-113, is set out in Attachment Q beginning on page 160.
Director		Both UDWRi and IDWR are led by a Director. In these materials, the term "Director" refers to the Director of IDWR, Gary Spackman, and the term "State Engineer" refers to the Director of UDWRi, Teresa Wilhelmsen.
DOI		U.S. Department of the Interior
DOI Report		The DOI Report refers to William Vaughn Iorns, *Segregation of Irrigation and Power Storage in Bear Lake Reservoir*, U.S. Dep't of Interior Open File Report (1959). The DOI Report is reproduced in Attachment Y on page 243.
Downriver Facilities		The "Bear River System" is composed of the "Bear Lake Facilities" and the "Downriver Facilities." The Downriver Facilities are PacifiCorp's hydroelectric and other facilities located on the Bear River below the Outlet Canal discharge.
Downriver Rights		These are PacifiCorp's hydropower and other water rights that divert from Bear River below Stewart Dam. Some are decreed, others are not.
Draft Bear River Plan		*Utah State Water Plan: Bear River Basin - Planning for the Future (Public Review Draft)* (12/31/2002)
Dry Canyon Powerhouse		The new Dry Canyon Powerhouse will encompass, in a single facility, both the generators for hydropower as water is released from the Upper Reservoir and the pumping equipment to lift water to the Upper Reservoir. The Dry Canyon Powerhouse is described in Attachment M beginning on page 121 and Attachment B, section II.C on page 17.
Dry Canyon Project	Dry Canyon Pumped Storage Project or Project	This is a proposed pumped storage hydroelectric facility consisting of an Upper Reservoir (above Mud Lake), a Lower Reservoir (within the Mud Lake Regulation Reservoir), the Dry Canyon Powerhouse, and ancillary facilities.
ECC		ECC refers to the Bear River Environmental Coordination Committee. It is composed of parties to the Relicensing Settlement: PacifiCorp, USFWS, BLM, NPS, USDA, Shoshone-Bannock Tribes, State of Idaho, IDFG, IDEQ, IDPR, IRU, Idaho Council of TU, GYC, and American Whitewater.
EPA		U.S. Environmental Protection Agency
Explanatory		The Explanatory is a document submitted as part of the UCAP. It relies on and references the ITAP.

Short Name	aka	Full Name or Explanation
FERC	Commission	Federal Energy Regulatory Commission
GYC		Greater Yellowstone Coalition
IDEQ		Idaho Department of Environmental Quality
IDFG		Idaho Department of Fish and Game
First 20-Year Review		*Findings Concerning the Need for Compact Revision: A Report of the Bear River Commission* (11/18/1997)
fka		The acronym "fka" is short for "formerly known as."
History of Compact		History of Compact refers to Wallace N. Jibson, History of the Bear River Compact (11/31/1991). The History of Compact report is reproduced in Attachment Z on page 287.
Idaho Application Form		This is the form filed by PacifiCorp with IDWR seeking transfer of its Bear Lake Reservoir Decreed Rights. It consists of the Minimum Requirements Checklist and the Application for Transfer of Water Right.
Idaho Appropriation Application		Application for Permit (Application No. 82261; Water Right No. 11-7835) filed by IWRB and UDWRe with IDWR on 3/23/2018. The Idaho Appropriation Application and the Utah Appropriation Application collectively constitute the State Appropriation Applications.
Idaho Transfer Application Package	ITAP	The ITAP is a collection of application documents consisting of PacifiCorp's cover letter to IDWR, the Idaho Application Form, and Attachments A through Z, together with tables of contents and indexes.
IDPR		Idaho Department of Parks and Recreation
IDWR	Department	Idaho Department of Water Resources
In-Lake Rights		This is a sub-group of the Bear Lake Reservoir Decreed Rights. See Attachment A, Table 2 on page 11.
Irrigation Reserve		The lake level set by the Bear River Compacts below which PacifiCorp may not release water from Bear Lake solely for hydropower generation. Original Compact, art. V, § B; Amended Compact, art. VI, § D, p. 9. The Irrigation Reserve is now set at 5,914.61 feet (based on 30,000+ AF new reservoir construction above Stewart Dam).
IRU		Idaho Rivers United
IWRB		Idaho Water Resource Board
Kimball Decree		*Utah Power & Light Co. v. Richmond Irrigation Co.*, Final Decree, Utah Dist. Ct., First Judicial Dist. (2/21/1922) (Kimball, J.) (unreported) (the operative provisions are set out in Attachment R on page 177)
Kimball Schedule of Rights		Each of the Decrees contains a "Schedule of Rights" describing the elements of each decreed right. The relevant portion of the Schedule of Rights for the Kimball Decree, § II, pp. 10-69, is set out in Attachment R beginning on page 187.

Short Name	aka	Full Name or Explanation
Lifton Pump Station		The Lifton Pump Station is used to move water (by gravity or pumping) from Bear Lake into the Outlet Canal, which in turn conveys the water back to the Bear River (unless the Outlet Canal Gates are closed). The structure is bi-directional; water can also flow by gravity from Mud Lake to Bear Lake. The Lifton Pump Station is described in Attachment M, Table 9 on page 122 and Attachment B, section III.B.8 on page 25.
Lower Reservoir		This is the new reservoir within Mud Lake associated with the Dry Canyon Project. The Lower Reservoir is described in Attachment M, Table 11 on page 124 and Attachment B, section II.C on page 17.
Mitigation Plan		This the Mitigation Plan that is included as part of the ITAP and is set out in Attachment O on page 133.
Mud Lake	Dingle Swamp	Mud Lake is the entire water complex (lake and wetlands) to the north of Bear Lake consisting of roughly 17,000 acres. Mud Lake is sometimes referred to as Dingle Swamp. See discussion in Attachment B below, section III.B.9 on page 26.
Mud Lake Regulation Reservoir		The Mud Lake Regulation Reservoir is the 7,691-acre water body (located within the larger Mud Lake area) that is actively managed by PacifiCorp for storage purposes. See discussion in Attachment B, section III.B.9 on page 26. The Lower Reservoir will be located within Mud Lake Regulation Reservoir. See discussion in Attachment B, section II.D on page 19.
Narrative		The Narrative is an attachment included in the ITAP. It is set out in Attachment B on page 13. The term "Narrative" should not be confused with the separate terms "Dietrich Main Narrative" and "Schedule of Rights Narrative."
NEPA		National Environmental Policy Act
NPS		National Park Service
Operations Agreement		*Operations Agreement for PacifiCorp's Bear River Operations* (4/18/2000) (reproduced in Attachment V on page 217). Signatories were PacifiCorp, IDWR, UDWRe, and the Wyoming State Engineer's Office. The latter three are referred to in the agreement as "States."
Original Bear Lake Settlement		*Bear Lake Settlement Agreement* (4/10/1995)
Original Compact		*Bear River Compact*, Pub. L. No. 85-348, 72 Stat. 38 (3/17/1958)
Outlet Canal	Bear Lake Outlet Canal	The Outlet Canal is located within Mud Lake on the western side of the Mud Lake Regulation Reservoir. It conveys Bear Lake water from the Lifton Pump Station (together with some water entering from Mud Lake) returning it to the Bear River at a point just west of Montpelier, Idaho.

Short Name	aka	Full Name or Explanation
Outlet Canal Headgates	Paris Dike Outlet Gates or Outlet Gates or Bear Lake Outlet Canal Headgates or Outlet Water Regulating Dam	The Outlet Canal Headgates are located on the Outlet Canal where it intersects with Paris Dike in the north end of Mud Lake The gates regulate water flow in the Outlet Canal. They can be closed in order to direct water from Mud Lake into Bear Lake. The Outlet Canal Headgates are described in Attachment M, Table 9 on page 122 and Attachment B, section III.B.7.
Overview Map		This map shows both PacifiCorp's existing Bear Lake Facilities and the new Project. The Overview Map is set out in Attachment D on page 79. The Overview Map displays in a smaller-scale (less detail) than the Project/Hereafter Maps.
Pinpoint Maps		These are high resolution satellite views showing the pinpoint location of the potential points of diversion or re-diversion associated with the Project. The Pinpoint Maps are set out in Attachment F on page 93.
Paris Dike		A man-made earthen dike within Mud Lake which forms the northern boundary of the Mud Lake Regulation Reservoir. The Outlet Canal Headgates are part of the Paris Dike.
PLSS		PLSS stands for Public Land Survey System. See note at top of Attachment M on page 121 regarding how lots are displayed in Idaho and Utah mapping format.
POD		Point of diversion
POU		Place of use
Project	Dry Canyon Project or Dry Canyon Pumped Storage Project	This is a proposed pumped storage hydroelectric facility consisting of an Upper Reservoir (above Mud Lake), a Lower Reservoir (within Mud Lake), the Dry Canyon Powerhouse, and ancillary facilities.
Project/Hereafter Maps	Project Maps or Hereafter Maps	The Project/Hereafter Maps are set out in Attachment E on page 81. They describe the proposed Project facilities. The Project/Hereafter Maps display in a larger-scale (more detail) than the Overview Map. The Overview Map, Project/Hereafter Maps, and Pinpoint Maps collectively serve as Attachment #7a to the Idaho Application Form. The term Hereafter Map is employed by UDWRi.
PTE		"PTE" stands for "PacifiCorp's Target Elevations." See discussion in Attachment B, section XI.B on page 54.
Rainbow Canal	Rainbow Inlet Canal	The Rainbow Canal is the main conveyance facility delivering Bear River water to Mud Lake. Water is diverted into the canal by Stewart Dam. The Rainbow Canal is described in Attachment B, section III.B.2 on page 24.

Short Name	aka	Full Name or Explanation
Rainbow Canal Headgate	Rainbow Dam or Rainbow Canal Inlet	Rainbow Canal Headgate is located on the Rainbow Canal approximately 800 feet downstream of Stewart Dam. The headgate creates head to allow private irrigation entities to divert water from the Rainbow Canal into their water systems. This structure is listed incorrectly as a POD for the Bear Lake Reservoir Decreed Rights in IDWR's database. The Rainbow Canal Headgate is described in Attachment M, Table 10 on page 123 and Attachment B, section III.B.3 on page 24.
Ream-Crockett Canal	Dingle Inlet Canal	The Ream-Crockett Canal (historically known as the Dingle Inlet Canal) is one of the two canals bringing water from Bear River to Mud Lake. The Ream-Crockett Canal empties into the Rainbow Canal before the latter reaches Mud Lake. The Ream-Crockett Canal is described in Attachment M beginning on page 121 and Attachment B, section III.B.4 on page 24.
Ream-Crockett Canal Intake	Dingle Canal Diversion Dam or Intake for Ream-Crocket Canal	The intake for the Ream-Crockett Canal is located on the Bear River about four miles upstream of Stewart Dam. It diverts water into the Ream-Crockett Canal. It is the second POD authorized under the Bear Lake Reservoir Decreed Rights. It is described in Attachment M, Table 9 on page 122 and Attachment B, section III.B.5 on page 25.
Relicensing Explanatory Statement		*Explanatory Statement Concerning the Relicensing of the Bear River Hydroelectric Projects FERC Project Nos. 20, 472, and 2401 Caribou and Franklin Counties Idaho* (8/28/2002).
Relicensing Settlement		*Settlement Agreement Resolving the Relicensing of the Bear River Hydroelectric Projects* (8/28/2002)
R.O.W.		Right of way
Schedule of Rights		This is the list found in each of the Decrees listing each adjudicated water right and its elements. Dietrich Decree, § II, pp. 14-113; Kimball Decree, § II, pp. 10-69. It includes both a numerical quantification of the elements and a brief narrative description. The Schedule of Rights is identical in the two decrees with respect to the Bear Lake Reservoir Decreed Rights, the Cutler rights, and the Sugar Company rights, but differs as to other rights.
Schedule of Rights Narratives		The Schedule of Rights in both the Dietrich Decree and the Kimball Decree contain a narrative explanation of the Bear Lake Reservoir Decreed Rights under the heading "Point of Diversion and Place of Use." These narrative components are found in the Dietrich Decree § II(1), p. 14 and the Kimball Decree § II(1), p. 10.
Second 20-Year Review		*The 2017 20-Year Compact Review: A Report of the Bear River Commission* (4/21/2020)
SLBM		Salt Lake Base and Meridian (used in PLSS descriptions in Utah). The Idaho counterpart is BM.

Short Name	aka	Full Name or Explanation
Small Irrigators		This is a group of irrigators who were represented by two unincorporated associations (the Idaho Pumpers Association and the Utah Pumpers Association) that were signatories to the original Bear Lake Settlement Agreement of 4/10/1995. They are not formal signatories to the Amended Bear Lake Settlement of 7/2/2002), but the rights and interests are set out in that agreement (a copy of which is set out in Attachment W beginning on page 210).
State Engineer		Both UDWRi and IDWR are led by a Director. In these materials, the term "Director" refers to the Director of IDWR, Gary Spackman, and the term "State Engineer" refers to the Director of UDWRi, Teresa Wilhelmsen.
States		This term is used in context for the States of Utah and Idaho.
State Appropriation Applications		Collectively refers to (1) Application for Permit (Application No. 82261; Water Right No. 11-7835) filed by IWRB and UDWRe with IDWR on 3/23/2018 ("Idaho Appropriation Application") and (2) Application to Appropriate Water (Application No. A81142; Water Right No. 23-3972) filed by IWRB and UDWRe with UDWRi on 3/23/2018 ("Utah Appropriation Application").
Stewart Dam		This is the primary point of diversion for Bear River water under the Stewart Dam Rights. The Stewart Dam diverts water to the Rainbow Canal, which carries the water to Bear Lake. Stewart Dam is described in Attachment M beginning on page 121 and Attachment B, section III.B.1 on page 23.
Stewart Dam Rights		This is a sub-group of the Bear Lake Reservoir Decreed Rights. See Attachment A, Table 2 on page 11.
Sugar Company		Utah-Idaho Sugar Company
Sugar Company Agreement		*Conveyance and Agreement* (12/30/1912). Entered into between UP&L and the Sugar Company.
System Addendum		*Addendum Interpreting Agreement Regarding the Bear River System* (12/7/1999) (reproduced in Attachment U on page 215)
System Agreement		This is short for the *Agreement Regarding the Bear River System* (10/5/1999) (reproduced in Attachment T on page 209). Signatories were PacifiCorp, Scottish Power, and the States of Idaho, Utah, and Wyoming.
Telluride Power Company		The Utah-Idaho Sugar Company and the Telluride Power Company were early developers of Bear Lake Facilities, later acquired by UP&L.
Three-State Agreements		The Three-State Agreements consist of three documents: the System Agreement (10/5/1999), the System Addendum (12/7/1999), and the Operations Agreement (4/18/2000).
TU		Trout Unlimited
UDNR		Utah Department of Natural Resources

Short Name	aka	Full Name or Explanation
UDWRe		Utah Division of Water Resources
UDWRi		Utah Division of Water Rights
UP&L		Utah Power & Light Company (predecessor of PacifiCorp)
Upper Reservoir		This is the new reservoir above Mud Lake associated with the Dry Canyon Project. The Upper Reservoir is described in Attachment M, Table 11 on page 124 and Attachment B, section II.C on page 17.
Upstream Storage Restriction		The Amended Compact states that when Bear Lake is below 5,911.0 feet, water may not be diverted to the second block of new upstream storage.
USDA		U.S. Department of Agriculture
USFWS		U.S. Fish and Wildlife Service
USGS		U.S. Geological Survey
Utah Application Form		This refers to the Application for Permanent Change of Water filed by PacifiCorp with UDWRi.
Utah Appropriation Application		Application to Appropriate Water (Application No. A81142; Water Right No. 23-3972) filed by IWRB and UDWRe with UDWRi on 3/23/2018. The Utah Appropriation Application and the Idaho Appropriation Application collectively constitute the State Appropriation Applications.
Utah Change Application Package	UCAP	The UCAP is a compilation of application documents consisting of PacifiCorp's cover letter to UDWRi, the Utah Application Form, the Explanatory, the Project/Hereafter Maps, and the Pinpoint Maps.
Utah-Idaho Sugar Company	Sugar Company	The Utah-Idaho Sugar Company and the Telluride Power Company were early developers of Bear Lake Facilities, later acquired by UP&L.
Utah State Engineer	State Engineer	This is the appointed officer responsible for administration of Utah water rights, and the head of UDWRi.
Utah State Water Plan		*Utah State Water Plan: Utah's Water Resources - Planning for the Future* (12/31/2002)

Table 2: Definitions for groups of Bear Lake Reservoir Decreed Rights (Based on IDWR database. UDWRi's database treats them as a single right.) (See Table 6 and Table 7 in Attachment K on page 115on page 116 for a detailed pre-transfer summary of the Bear Lake Reservoir Decreed Rights.)	
Bear Lake Reservoir Decreed Rights (all 4 rights, totaling 6,000 cfs)	The shorthand term "Bear Lake Reservoir Decreed Rights" is used to describe the water rights owned by PacifiCorp pursuant to the Dietrich and Kimball Decrees, copies of which are included in Attachment Q and Attachment R, respectively. Idaho identifies them as Nos. 11-248, 11-249, 11-250, and 11-251. Utah identifies them under the single right No. 23-3929. Under the shorthand employed here, the Bear Lake Reservoir Decreed Rights are composed of "Stewart Dam Rights" and the "In-Lake Rights."
Stewart Dam Rights (2 rights totaling 5,500 cfs)	The shorthand term "Stewart Dam Rights" refers to PacifiCorp's water rights under the Dietrich and Kimball Decrees that authorize diversion of water from Bear River for storage in Bear Lake Reservoir. They are referred to as the "Stewart Dam Rights" because they divert from the Bear River primarily at the Stewart Dam (in addition to the intake for the Ream-Crocket Canal (fka Dingle Inlet Canal)). Idaho identifies them as Nos. 11-248 and 11-249. Utah Water Right No. 23-3929 includes both the Stewart Dam Rights and In-Lake Rights.
In-Lake Rights (2 rights totaling 500 cfs)	The shorthand term "In-Lake Rights" refers to PacifiCorp's water rights under the Dietrich and Kimball Decrees that authorize storage of "waters naturally flowing into or arising in" Bear Lake Reservoir (which includes Bear Lake and Mud Lake). Dietrich Decree, § I(2) (first paragraph), p. 7 (Attachment Q on page 153). Idaho identifies them as No. 11-250 (Bear Lake inflow) and No. 11-251 (Mud Lake inflow). Utah Water Right No. 23-3929 includes both the Stewart Dam Rights and In-Lake Rights.

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Attachment B NARRATIVE

Note:

This Narrative and the other Attachments in the ITAP and UCAP rely on defined terms set out in Attachment A on page 1.

I. Explanation of the ITAP and UCAP

PacifiCorp's Idaho Transfer Application Package ("ITAP") contains all materials filed with IDWR in support of its water right transfer application for the proposed Dry Canyon Project. This includes a cover letter, the Idaho Application Form, and Attachments A through Z. Electronic and/or bound, tabbed, double-sided, courtesy copies of the ITAP will be made available for the convenience of readers.

Simultaneously with the filing of the ITAP, PacifiCorp is submitting a separate Utah Change Application Package ("UCAP") to UDWRi. The UCAP is a streamlined version of the ITAP. The UCAP relies on and references the ITAP (a copy of which was also filed with UDWRi).

The UCAP seeks the same result as the ITAP. Although it appears to PacifiCorp that the Amended Bear River Compact places jurisdiction in the State of Idaho, PacifiCorp defers to the States to resolve which State has jurisdiction. See discussion of jurisdiction in section XIII (Jurisdiction under the Compact) on page 74.

PacifiCorp welcomes participation by both States and all stakeholders in Idaho's consideration of the ITAP and Utah's consideration of the UCAP.

II. Overview and Project description

A. Changes requested in this application

PacifiCorp intends to construct a pumped storage hydroelectric facility (the "Dry Canyon Pumped Storage Project," "Dry Canyon Project," or the "Project"). The Project will use PacifiCorp's existing Bear Lake Reservoir Decreed Rights, which already authorize use for power production. The only difference between the pre-transfer rights (Attachment K, Table 7 on page 116) and the post-transfer rights (Attachment L, Table 8 on page 118) is the addition of new places of use (and possibly points of diversion) associated with Project facilities. These changes are displayed in red in Attachment L, Table 8 on page 118. (Also see discussion notes following Table 8.) PacifiCorp seeks no change in the quantity of its water rights or to any other element. The additional power production will occur without any impact on Bear Lake operations. Nor will the Project diminish or impair any water right or contract or other entitlement of any water user in Idaho or Utah.

B. Project overview and function

The Dry Canyon Project will entail construction of a new Upper Reservoir connected via penstocks to the Dry Canyon Powerhouse. The Lower Reservoir will be a segregated pool located within Mud Lake. The Upper Reservoir will be located on higher ground known as Dry Canyon to the east of Mud Lake. All Project facilities are in Idaho.

The purpose of this Project is to provide energy storage, support, and balance to PacifiCorp's electrical system while allowing for the incorporation of additional variable renewable generation resources such as wind and solar.

The Project will not make any additional water available for other uses. However, other opportunities for increased water supplies could be pursued in conjunction with the Project. See discussion in section II. E (Relationship of the Dry Canyon Project to other potential operational improvements in the Bear River System) on page 19.

Water will be pumped to the Upper Reservoir in the same pipes used to generate energy when it is released back to the Lower Reservoir. The Project will employ an underground pump station (housed within the Dry Canyon Powerhouse) to pump water to the Upper Reservoir.

Water will be released back to the Lower Reservoir during times of high energy demand and as backfill when intermittent energy sources go offline. The Project will be able to produce up to 1,800 MW of power for a duration of nearly 16 hours. During times of operation, this is enough to serve approximately 1.7 million homes. This source of instantly available, low-cost energy will significantly enhance the region's ability to employ more wind, solar, and other renewable sources that require back-up power (energy storage).

The Project will be virtually nonconsumptive. PacifiCorp will mitigate for the small reduction in water available to other water users resulting from initial fill of the reservoirs and ongoing evaporation. PacifiCorp's Mitigation Plan is discussed in section IX on page 47 and is set out in Attachment O on page 133.

PacifiCorp's Bear River System will continue to be operated as it is now for flood control, irrigation, and hydropower production. PacifiCorp's obligations under all contracts, settlements, and interstate agreements will remain in force and unaffected.[1]

[1] See discussion in section X (Bear Lake elevation considerations) on page 50 and section XI (Summary of contracts, agreements, and other obligations bearing on Bear River System operations) on page 54.

The Project is planned as a closed-loop system that will isolate water level fluctuations within the Upper and Lower Reservoirs.[2] Consequently, the Project's day-to-day operation will have no effect on the elevation of either Bear or Mud Lake. The initial fill of the Project will have a minor impact on Bear Lake's elevation. That elevation effect will be appropriately addressed to ensure that PacifiCorp's contract or other obligations based on lake elevations are unaffected.[3]

For these reasons, the Dry Canyon Project will have no effect on existing water users in Idaho, Utah, or Wyoming, or on members of the public who rely on current Bear Lake operations. Nor will the Project preclude any possible change in Bear Lake operations to enhance water availability.[4]

Project design includes features that will improve sediment capture in the Mud Lake area, thus improving water quality there and in Bear Lake.

PacifiCorp holds identical water rights in Idaho and Utah under the Dietrich and Kimball Decrees (the "Bear Lake Reservoir Decreed Rights") authorizing, subject to prior rights, the diversion and storage of all available water in Bear River as well as natural inflow to the Bear Lake Reservoir. These rights have been used for over a century to satisfy irrigation contracts in Idaho and Utah, to generate energy at multiple hydroelectric facilities operated by PacifiCorp, and to provide flood control benefits.

If approved, the Project will rely on currently authorized quantities, priorities, diversion points, places of use, and purposes of use under the Bear Lake Reservoir Decreed Rights. The Project will use water already diverted and stored in Bear Lake Reservoir (consisting of Bear Lake and Mud Lake) and under PacifiCorp's control. The sole purpose of the applications is to confirm that the Decreed Rights may be used for power generation at the Project location.[5]

Assuming that a transfer application is required,[6] the next question is which State has jurisdiction. The Amended Compact directs that the location of the point(s) of diversion determines which State has jurisdiction to act on a water right application. The four points of diversion for the existing Bear Lake Reservoir Decreed Rights are all in

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[2] See discussion in section II.D (Potential alternative location for Lower Reservoir) on page 19.

[3] See discussion in section X (Bear Lake elevation considerations) on page 50.

[4] See discussion in section II.E (Relationship of the Dry Canyon Project to other potential operational improvements in the Bear River System) on page 19.

[5] See discussion in section XII (Whether any change or appropriation is required) on page 64.

[6] See discussion in section XII.A (Whether a change is required at all) on page 64.

Idaho. To the extent Dry Canyon Project features are deemed to be points of diversion, they, too, are located in Idaho. Accordingly, IDWR has jurisdiction to act on the ITAP.

Out of an abundance of caution, and in deference to the States and the Bear River Commission, PacifiCorp is also filing an Application for Permanent Change of Water with UDWRi. See discussion in see section XIII (Jurisdiction under the Compact) on page 74. It is PacifiCorp's desire that the changed water rights in both Idaho and Utah be identical, as is currently the case with the Dietrich and Kimball Decrees.

The bottom line is that the Dry Canyon Project will provide enhanced beneficial use of existing water rights without enlargement or harm to others. This application is the functional equivalent of an irrigator who captures and reuses irrigation water—without enlargement or impairment of other uses—while still under the irrigator's control, thereby achieving greater beneficial use of the public resource. The Project applications are therefore consistent with bedrock law in both Idaho and Utah that appropriators may and should get as much beneficial use as possible from water before it leaves their control. On this point, there is no daylight between Idaho and Utah law.[7]

In short, PacifiCorp proposes to put its Bear Lake Reservoir Decreed Rights to work for an additional nonconsumptive[8] and exceptionally beneficial use while still under its control, and before that water is released to satisfy downstream contract irrigation rights. As such, this application—for additional energy generation of already stored water without detriment to other water users—maximizes use of the public resource.[9]

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[7] *See, e.g., Reynolds Irrigation Dist. v. Sproat*, 214 P.2d 880, 883 (Idaho 1950) (it is "settled law" that an appropriator may reclaim and reuse water in its control "as long as he is willing to put it to beneficial use"); *Lasson v. Seely,* 238 P.2d 418, 422 (Utah 1951) ("While the water is under [appropriator's] dominion and control, [it] is entitled to use it on [its] own land in such beneficial manner as [it] sees fit."

[8] The Project is virtually nonconsumptive. Coupled with its Mitigation Plan, it is entirely nonconsumptive.

[9] "The policy of the law of this State is to secure the maximum use and benefit, and least wasteful use, of its water resources." *Poole v. Olaveson*, 82 Idaho 496, 502, 356 P.2d 61, 65 (1960). *See also Washington State Sugar Co. v. Goodrich*, 27 Idaho 26, 44, 147 P. 1073, 1079 (1915) ("It is the policy of the law of this state to require the highest and greatest possible duty from the waters of the state in the interest of agriculture and for useful and beneficial purposes."); *Mountain Home Irrigation Dist. v. Duffy*, 79 Idaho 435, 319 P.2d 965 (1957) ("It must be remembered that the policy of the law of this state is to secure the maximum use and benefit of its water resources."); *American Fork Irr. Co. v. Linke,* 121 Utah 90, 97, 239 P.2d 188, 192 (1951) (upholding use of water right that "contemplates the more beneficial use of water, a most desired result fully consistent with progress and change, and reflecting the established policy of this state."); *Arave v. Pineview West Water Co.,* 2020 UT 67, ¶33 (holding that the "primary objective" in water disputes is ensuring that "the greatest amount of available water is put to beneficial use").

C. Description of Project facilities

Notes:

See Attachment G, Table 3 on page 105 for volume information on all reservoirs.

The PLSS descriptions associated with these facilities are set out in Attachment M, Table 11 on page 124.

The Upper Reservoir will be located on higher ground east of Mud Lake. It is planned to have a surface area of 182 acres and an active storage volume of 23,730 AF. It will be constructed in what is known as Dry Canyon at elevation 7,420 feet (full pool) using roller compacted concrete in steps. A single dam placed at the south end of Dry Canyon, a natural canyon, and natural surrounding topography will form the Upper Reservoir. The structure will contain three intake gates for individual 22-foot diameter penstocks. The dam will be approximately 530 feet high with a crest length of approximately 2,900 feet.

The Lower Reservoir is planned to have a surface area of 1,390 acres and an active storage volume of 23,730 AF (the same as the Upper Reservoir). It will be constructed with levies/dikes placed within the perimeter of the 7,691-acre Mud Lake Regulation Reservoir. Enclosed by the levies/dikes and natural landforms, the Lower Reservoir would be separated from the waters of the Mud Lake Regulation Reservoir to create a closed-loop system. Thus, water levels will fluctuate within the Lower Reservoir without affecting lake levels in the rest of Mud Lake.

The Lower Reservoir active pool will be approximately 17 feet in height (excluding freeboard). Of that total height, approximately 5.5 feet will be at or below the normal or target Mud Lake elevation of 5,920.5 feet. Approximately 11.5 feet will be located above the normal Mud Lake elevation—which is termed the "surcharge" portion of the reservoir. The combined 17 feet (above and below the normal elevation) will constitute the active storage area of the reservoir. Another 2 feet of freeboard will be constructed above, and a dead pool of approximately 3 feet exists below, yielding a total reservoir height of approximately 22 feet above the estimated base elevation of 5,912.0 feet.[10]

The Lower Reservoir will include gates to allow water to enter or leave the reservoir during maintenance or other operations. The initial fill of the Lower Reservoir will occur by opening the gates and allowing Mud Lake water to flow into the reservoir. The gates will then be closed, and the water pumped to the Upper Reservoir. The gates

[10] The base elevation (5,912.0 feet) is the bottom of Mud Lake Reservation Reservoir, whose normal or target reservoir elevation is 5,920.5 feet. The lower end of the active pool is approximately 5,915.0 feet, which is 3 feet above the base elevation. This 3 foot area is the dead pool. This dead pool existed before the Project and will not be affected by the Project.

may then be opened allowing more water to flow into the Lower Reservoir. This process may be repeated until the dead pool and entire active storage capacity of the Upper Reservoir is filled and the Lower Reservoir is empty (except for the dead pool). Water may then be released from the Upper Reservoir to fill the Lower Reservoir, including its "surcharge area" (the portion of the Lower Reservoir above the Mud Lake elevation).

No spillway is proposed in this closed-loop system as the Upper Reservoir and Lower Reservoir have the same active storage volume, so run-away pumping that would cause overtopping of the Upper Reservoir would not be possible. Moreover, Dry Canyon does not have a sufficient watershed to cause overland run-off volumes that would exceed the capacity of the Upper Reservoir.

The two reservoirs will be connected by three 22-foot diameter penstocks, allowing water to move back and forth between the reservoirs. The Dry Canyon Powerhouse will be located below-ground at the lower end of the penstocks, between the two reservoirs. The Dry Canyon Powerhouse will contain both power generating equipment (used when water is flowing down from the Upper Reservoir) and pumping equipment (used to push water back to the Upper Reservoir). It will employ six pumping/generating units in an underground chamber.

The primary operational mode of this Project would be to support variable renewable generation sources such as wind and solar. The Project would pump water from the Lower Reservoir during times when surplus energy from other resources is available and generate electricity during periods of high demand or when variable renewable generation sources are not available.

Water released from the Upper Reservoir will flow at up to 17,955 cfs and will generate up to 1,800 MW. Six 300 megawatt (MW) generating units are proposed. It is anticipated that turbines could be impulse or reaction type. Water will be pumped back to the Upper Reservoir at a rate of up to 14,280 cfs. Thus, the active storage capacity in the Upper Reservoir could be evacuated in under 16 hours, and it would take approximately 20 hours to refill.[11] Depending on generation demand and variable renewable energy production, the Project could pump and generate multiple times in a 24-hour period.

Reservoir dimensions are set out in Attachment G, Table 3 on page 105. See section IX on page 47 and section X on page 50 for a discussion of how the volume components of the Dry Canyon Project are addressed in the Mitigation Plan and the Bear Lake level adjustment condition. The PLSS descriptions associated with the Dry Canyon Project facilities are set out in Attachment M, Table 11 on page 124. The Project/Hereafter Maps (Attachment E on page 81) and the Pinpoint Maps (Attachment F

[11] The conversion factor for cfs to AF/day is: cfs x 1.98347 = AF/day. Dividing that factor by 24 hours yields the following formula for the number of hours required to fill or evaluate a reservoir: AF ÷ cfs ÷ 0.0826446 = hours.

on page 93) show the location of these facilities. The Dry Canyon Project also appears on the smaller-scale Overview Map (Attachment D on page 79).

It is possible that, during the course of the FERC licensing process, NEPA alternatives analyses, or other proceedings, regulatory officials could recommend the Lower Reservoir be relocated to another site within the Mud Lake Regulation Reservoir. Or the entire Mud Lake Regulation Reservoir could serve as the Lower Reservoir. See discussion subsection D below.

D. Potential alternative location for Lower Reservoir

PacifiCorp's preferred location for the Lower Reservoir is in the southeast corner of the Mud Lake Regulation Reservoir as depicted on the Project/Hereafter Maps in Attachment E beginning on page 81, with PLSS descriptions as set out in Attachment M, Table 11 beginning on page 124. This reservoir would be a segregated water body including a surcharge area with an elevation higher than that of the surrounding Mud Lake Regulation Reservoir.

In anticipation of the alternatives analyses mandated by NEPA (which will be conducted during the course of FERC licensing, as discussed in section G on page 21), PacifiCorp has identified a larger area (7,691 acres) within Mud Lake (known as the Mud Lake Regulation Reservoir) as a potential relocation zone for the Lower Reservoir.

The Mud Lake Regulation Reservoir is the portion of Mud Lake that is currently actively managed by PacifiCorp for storage purposes. It is discussed in section III.B.9 on page 26. It is depicted in red on the Project/Hereafter Maps in Attachment E beginning on page 81, and its PLSS description is set out in Attachment M, Table 11 beginning on page 124.

If necessary to address regulatory requirements or other considerations, the preferred site of the Lower Reservoir could be moved to another location within the Mud Lake Regulation Reservoir (also operating as a segregated water body including a surcharge area with an elevation higher than that of the surrounding Mud Lake Regulation Reservoir).

Alternatively, if desired by regulatory officials, it is possible the entire existing Mud Lake Regulation Reservoir could serve as the Lower Reservoir, in which case there would be no surcharge area, and the Project would no longer be a closed-loop system.

E. Relationship of the Dry Canyon Project to other potential operational improvements in the Bear River System

From time to time, there have been discussions in other forums about possible changes to Bear River System operations that would use higher Bear Lake target elevations to provide additional storage resulting in enhanced beneficial uses. This would entail the acquisition of flood easements or other property interests in Idaho's

Gentile Valley to avoid potential flood damage resulting from higher lake elevations. Notably, these operational adjustments do not require additional diversions, inasmuch as PacifiCorp already diverts the entire Bear River. These ideas have been explored by PacifiCorp in consultation with the States.[12]

It bears emphasis that the Dry Canyon Project is entirely independent of these proposals for enhanced Bear River System operations. The Dry Canyon Project does not require elevated lake levels or flood easements, nor would it be benefitted or harmed by such operational changes. Thus, the Dry Canyon Project will not impair the ability to undertake operational improvements involving elevated lake levels and flood easements that yield additional storage and enhanced beneficial uses in both states.

If desired by the States, PacifiCorp is willing to explore broader opportunities for operational changes to the storage operations at Bear Lake in addition to the Dry Canyon Project. However, the Project has independent utility and can move forward irrespective of any other operational changes.

F. Ownership of Project facilities and lands

PacifiCorp and its predecessors have long owned and/or operated its Bear Lake Facilities, including Stewart Dam, Rainbow Dam, Rainbow Canal, Ream-Crocket Canal (formerly known as Dingle Inlet Canal), Lifton Pump Station, Outlet Canal, and Outlet Canal Headgates, as well as Bear Lake Reservoir itself (Bear and Mud Lakes).[13] These existing facilities are unaffected by the Project and the proposed water right transfer.

Portions of the proposed Project will occupy lands or easements owned by PacifiCorp; others are owned by the United States. The Upper Reservoir, penstocks, and powerhouse will occupy land to the east of Mud Lake owned by BLM. The Lower Reservoir will be located within Mud Lake on federal lands within the Bear Lake National Wildlife Refuge. PacifiCorp owns federal Rights-of-Way BL 042924 and SL 046117 authorizing use of existing Bear River System facilities on federal land within Mud Lake. Other existing Bear River System water control structures are located on land owned by PacifiCorp.

PacifiCorp facilities throughout the Northwest routinely employ rights-of-way, special use permits, and other authorizations to use or cross federal land. These

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[12] See, Jake M. Serago, et al., *Impacts on Bear Lake Storage under Alternative High-Runoff Management Operations*, issued by representatives of Idaho, Utah, PacifiCorp, and the University of Colorado on December 20, 2020. This technical report was prepared in conjunction with the development of the Joint Bear River Planning Model, which will be used by Idaho, Utah, Wyoming, and PacifiCorp.

[13] The existing Bear Lake Facilities are described in section III on page 21. They are depicted in the *Overview Map* (Attachment D on page 79). Their PLSS locations are identified in Attachment M beginning on page 121).

permissions are typically negotiated and secured during the federal regulatory proceedings conducted by FERC. As discussed in subsection G below, PacifiCorp will undertake such a process here. The FERC process will be a multi-year undertaking involving extensive public input, NEPA analysis, and the imposition of mitigation requirements. It will provide ample time and opportunity for PacifiCorp to secure all necessary federal approvals.

See Project/Hereafter Maps (Attachment E on page 81), which show the location of these lands with respect to Project facilities.

G. FERC application for preliminary permit

The Project is subject to FERC jurisdiction and will require a FERC license. This is an incremental, multi-year process undertaken pursuant to Title 18 of the United States Code. The process entails public notice and citizen involvement coupled with extensive studies and NEPA analysis.

The first step is to secure a preliminary permit. A preliminary permit, issued for up to four years, does not authorize construction; rather, it maintains priority of application for license (i.e., guaranteed first-to-file status) while the permittee studies the site and prepares to apply for a license. This is followed years later by issuance of an original license authorizing construction and operation of the Project.

PacifiCorp filed an application for preliminary permit (P-15240) with FERC for the Dry Canyon Project on October 13, 2021. FERC accepted and noticed the application on October 21, 2021.

The FERC permitting and licensing process provides extensive opportunities to stakeholders and regulatory agencies to weigh in on appropriate environmental and recreational measures to mitigate Project impacts and ensure the Project is in the public interest. PacifiCorp welcomes this input and anticipates the Dry Canyon Project will provide an opportunity to support an array of enhancement measures locally and throughout the area.

III. Existing Bear Lake Facilities

Notes:

Documents issued over the decades have employed varying terms for the facilities described below. The headings below display PacifiCorp's preferred name. The preferred name and various "also known as" terms are set out in Attachment A ("Short names and definitions") beginning on page 1.

A. Overview of existing facilities

The "Bear River System" refers to PacifiCorp's existing facilities that divert, store, use, and distribute water under the Bear Lake Reservoir Decreed Rights. The Bear River System is composed of the "Bear Lake Facilities" and the "Downriver Facilities."

The Bear Lake Facilities are the facilities discussed in this section III. The Bear Lake Facilities are the existing facilities that divert water from the Bear River under the Bear Lake Reservoir Decreed Rights, store it in the Bear Lake Reservoir, and release it back to the Bear River. The Bear Lake Facilities include Stewart Dam, Rainbow Canal, Rainbow Canal Headgate, Ream-Crocket Canal Intake, Ream-Crocket Canal, Bear Lake Causeway Inlet, Outlet Canal, Outlet Canal Headgates, and Lifton Pump Station.

The Downriver Facilities are PacifiCorp's hydroelectric and other facilities located on the Bear River below the Outlet Canal discharge.

Both Mud Lake and Bear Lake operate as a combined storage facility, which is described in the Dietrich Decree as "Bear Lake Reservoir."[14]

The diversion system for the Bear Lake Reservoir Decreed Rights is described in the Decrees.[15] The primary point of diversion is Stewart Dam on the Bear River in Idaho. Under normal conditions, the entire flow of the river is diverted year-round at Stewart Dam into the Rainbow Canal, which carries the water to Mud Lake. If need be, water diverted at Stewart Dam may be directed back to the Bear River via the Outlet Canal in Mud Lake.

The elevation of Mud Lake is typically higher than Bear Lake. Because of the elevation difference, water in Mud Lake may be moved by gravity into Bear Lake via the Bear Lake Causeway Inlet.

When it is desired to release water from Bear Lake, either for irrigation or flood control evacuation, the water is pumped from Bear Lake into the Outlet Canal (on the western side of Mud Lake Regulation Reservoir) at the Lifton Pump Station on the northern shore of Bear Lake. It is carried in the Outlet Canal in a northerly direction (to and past Paris Dike) approximately 15 miles to a point of discharge into Bear River.

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[14] "Bear Lake Reservoir" is defined in the Dietrich Main Narrative, Dietrich Decree, § I(1) (first paragraph), p. 7 (Attachment Q on page 153). The term "Bear Lake Reservoir" is used (but not defined) in the Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187).

[15] Dietrich Main Narrative, Dietrich Decree, § I(1 & 2), pp. 7-8 (Attachment Q on pages 153-154); Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187).

On occasions when Bear Lake elevation is higher than Mud Lake, water from Bear Lake can also enter Mud Lake through two sluiceways in the Lifton Pump Station. Less commonly, water may be moved by gravity into Mud Lake at the Bear Lake Causeway Inlet—which is bi-directional.

The amount of flow out of Bear Lake is determined by irrigator needs or channel capacities, and the number of pumps used at the Lifton Pump Station will be selected accordingly.

The Dietrich Decree also authorizes water to be diverted "in seasons of flood water" at a point upstream from Stewart Dam (further south) on the Bear River in Idaho which is the intake for what was then called the Dingle Inlet Canal and is now known as the Ream-Crocket Canal.[16]

The Bear Lake Reservoir Decreed Rights also include the right to store "the waters naturally flowing into or arising in" Bear Lake (300 cfs) and Mud Lake (200 cfs).[17]

The Bear Lake Facilities are depicted in the Overview Map (Attachment D on page 79). Their PLSS locations are identified in Attachment M beginning on page 121. Details on each of the Bear Lake Facilities are provided below.

B. Individual existing facilities descriptions

1. Stewart Dam

Stewart Dam is located on the Bear River approximately five miles south of Montpelier, Idaho (due east of the Bear Lake County Airport, northeast of the town of Paris, and northwest of the town of Dingle). Stewart Dam allows for the diversion of Bear River water into the Rainbow Canal for conveyance to Mud Lake (and thereafter into Bear Lake). The dam includes an earthen embankment and spillway with a total approximate length of 600 feet. The spillway is a concrete and steel structure that is 200 feet long and 75 feet wide with 6 radial gates that are 25 feet wide and 16 feet high. The gates are operated by PacifiCorp personnel using manual coffer chain hoists. These gates are closed during normal operating conditions. The gates are opened only if flows in Bear River exceed 5,000 cfs, as measured at PacifiCorp's Rainbow gauge station located one mile downstream. A flow in excess of 5,000 cfs has occurred only once. The original Bear River channel below Stewart Dam is dewatered except for leakage that is approximately 5 to 7 cfs. Flooding of uplands may occur in the downstream channel if flows exceed 200 cfs.

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[16] Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), p. 7 (Attachment Q on page 153).

[17] Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), p. 7 (Attachment Q on page 153).

2. Rainbow Canal

Construction of the Rainbow Canal was commenced in 1913 and completed in 1916. It conveys Bear River flows south from the Stewart Dam into Mud Lake. In Mud Lake, the Rainbow Canal merges with the Outlet Canal. At that point, the Bear River water may either be directed south into Bear Lake for storage or north back to the Bear River via the Outlet Canal.[18] Rainbow Canal is 150 feet wide and 22,300 feet (4.2 miles) long. Maximum historical flow capacity is 5,000 cfs. A stream gauging station is located on the canal about two miles downstream from Stewart Dam.

3. Rainbow Canal Headgate

Rainbow Canal Headgate is located on the Rainbow Canal approximately 800 feet downstream of Stewart Dam. The headgate creates head to allow private irrigation entities to divert water from the Rainbow Canal into their water systems. The headgate is a concrete and steel structure that is 100 feet long, 42 feet wide, and 15 feet high, supported on pilings. There are 5 regulating bays with stop logs and two bays with electric motor-operated slide gates. This structure is listed incorrectly as a POD for the Bear Lake Reservoir Decreed Rights in IDWR's database. It is also incorrectly identified as a POD in the State Appropriation Applications.[19]

4. Ream-Crocket Canal (originally known as the Dingle Inlet Canal)

Construction of the Ream-Crockett Canal (originally known as the Dingle Inlet Canal) was commenced in 1902 and completed in 1917. It runs southwesterly for nearly five miles to a point where it empties into the Rainbow Canal near the downstream end of that canal. The canal carries water diverted from the Bear River together with return flow from irrigated lands along its path. It is operated primarily for the benefit of Idaho irrigators in the vicinity of the canal. The canal is 8 feet wide and 24,600 feet (4.7 miles long). Current maximum flow capacity is 50 cfs.

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[18] If the Outlet Canal Headgates on the Outlet Canal are open, the water entering from the Rainbow Canal will flow into the Outlet Canal and continue in a northerly direction back to the Bear River. If the Outlet Canal Headgates are closed, water will flow out of the Rainbow Canal from numerous points and make its way into Mud Lake. There are occasions, typically during higher flows, when water may flow both to Bear River through the Outlet Canal and into Bear Lake for storage at the same time.

[19] Page 1 of the Idaho Appropriation Application (Water Right No. 11-7835) incorrectly identifies the "Rainbow Canal Inlet" as a POD for its application. This structure is not a POD; it is the place where water previously diverted to Rainbow Canal at Stewart Dam may be released from the canal for delivery to irrigators. See Attachment B, section III.B.3 ("Rainbow Canal Headgate") on page 24.

5. Ream-Crocket Canal Intake (originally known as Dingle Canal Diversion Dam)

The intake to the Ream-Crockett Canal is located on the Bear River about four miles upstream of Stewart Dam. It diverts water into the Ream-Crocket Canal. The intake dam is the second POD authorized under the Bear Lake Reservoir Decreed Rights.

6. Bear Lake Causeway Inlet

The Bear Lake Causeway Inlet connects Mud Lake and Bear Lake. It is located approximately one mile east of the Lifton Pump Station. The Bear Lake Causeway Inlet is bi-directional. Under ordinary circumstances (when the elevation of Mud Lake is higher than Bear Lake), this structure is used to convey water by gravity from Mud Lake into Bear Lake for storage. Less commonly, when the elevation of Bear Lake is higher than Mud Lake, water may be moved through the Bear Lake Causeway Inlet by gravity from Bear Lake into Mud Lake.

The Bear Lake Causeway Inlet is a concrete and steel structure that is 57 feet long and 24 feet wide. There are 5 concrete gates that are operated by a single traveling carriage electric hoist.

7. Outlet Canal and Outlet Canal Headgates

The Outlet Canal conveys water directed to the canal from Bear Lake via Lifton Pump Station (as well as other water in Mud Lake) to the canal's confluence with the Bear River.

The Paris Dike and Outlet Canal Headgates are located midway on the canal near the north end of Mud Lake. The canal is 150 feet wide and 74,615 feet (14 miles) long. Historical maximum flow capacity is 3,080 cfs.

The Outlet Canal Headgates are contained within a concrete and steel structure that is 89 feet long and 30 feet wide. There are 7 concrete gates that are operated with 7 individual electric motors. Maximum capacity through the structure is 5,000 cfs. See footnote 21 at page **Error! Bookmark not defined.** for more information.

8. Lifton Pump Station

In 1912, the Utah-Idaho Sugar Company (whose interests were later acquired by UP&L) constructed an artificial outlet from Bear Lake. In 1917, UP&L constructed the Lifton Pump Station allowing Bear Lake to be emptied below the elevation of the inlet and outlet canals. IWRB, Bear River Basin Investigation (Feb. 1970), pp. 3-29.

The Lifton Pump Station is a two-story concrete structure. It is located on the north shore of Bear Lake approximately four miles east of St. Charles, Idaho. It houses five electric pumps, each rated at 750 hp with an average flow capacity of 300 cfs, for a total average capacity of 1,500 cfs.

The five pumps convey water from Bear Lake into Mud Lake when (as is typically the case) the elevation of Bear Lake is lower than Mud Lake. However, if necessary, water can pass in the other direction (from Mud Lake into Bear Lake) through the Lifton Pump Station by gravity flow through the Lifton Pump Station sluice gates. (This rarely occurs; water from Mud Lake typically enters Bear Lake via the Bear Lake Causeway Inlet approximately 1 mile east of the Lifton Pump Station.)

9. Mud Lake and Mud Lake Regulation Reservoir

Mud Lake is the entire water complex (the open water body and the surrounding hydraulically-connected wetlands) to the north of Bear Lake consisting of roughly 17,000 acres. This is the Mud Lake referenced in the Decrees. It is also included in the 1907 right-of-way granted to PacifiCorp's predecessor by DOI (which also includes Bear Lake). Mud Lake is sometimes referred to as Dingle Swamp. The term Mud Lake includes the smaller Mud Lake Regulation Reservoir discussed below.

The Mud Lake Regulation Reservoir is the 7,691-acre open water body (located within the larger Mud Lake area) that is actively managed by PacifiCorp for storage purposes. The Mud Lake Regulation Reservoir is defined by augmented natural berms, dikes, canals, natural topography, and control structures. As depicted in the Project/Hereafter Maps in Attachment E beginning on page 81, the Mud Lake Regulation Reservoir includes three "arms" going part-way up the Outlet Canal, the Rainbow Canal, and the Ream-Crockett Canal. These arms are included because there are no control structures on this portion of the canals, and the elevation of the canals causes some water to be incidentally stored in them.

Water stored under the Decrees within Mud Lake occurs primarily, but not exclusively, within the Mud Lake Regulation Reservoir. During high water conditions, water may be released from the Mud Lake Regulation Reservoir for storage in the surrounding wetlands of Mud Lake.

10. Bear Lake

Bear Lake is a natural lake located in Idaho and Utah. "Bear Lake . . . is 20 miles long, 8 miles wide, and 208 feet deep. It covers 112 square miles of surface area in Idaho and Utah."[20]

11. Measurement and gauging stations

Flows in canals and lake elevations in Bear and Mud Lakes are monitored at several locations.

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[20] *Order Finding Licensing Not Required*, FERC Docket No. UL97-11-000, 82 FERC ¶ 62,100, 1998 WL 108456, *2, n.1 (Feb. 12, 1998) (order issued by Carol L. Sampson, Director, Office of Hydropower Licensing, now Office of Energy Projects).

The diverted flow from the Bear River is monitored by PacifiCorp in a gauging station on the Rainbow Canal about two miles downstream of Stewart Dam. The gauge is a continuous recording facility using a battery/solar panel electrical system. It contains a Campbell Scientific electronic continuous recording data logger. Communication is accomplished via radio-frequency telemetry.

The monitoring of the outflow from the Bear Lake Reservoir occurs approximately 600 feet downstream on the Outlet Canal. It uses the same type of equipment.

In addition, there is a paper strip chart recorder in the pump station that provides level monitoring of Mud Lake on a continuous basis in addition to daily manual reading.

There is a recently installed United States Geological Survey elevation station on Bear Lake at the Utah State Parks marina near Garden City, Utah. Between 2004 and October 2019, operators used a staff gauge at the marina for daily elevation readings. Before 2004 a paper strip chart recorder in the pump station provided level monitoring of Bear Lake.

IV. Background on PacifiCorp's Bear River System

A. Corporate organization and history

PacifiCorp is a regulated electric utility that serves approximately 1.8 million residential, commercial, and industrial customers throughout its six-state service territory.

Construction of the first components of the Bear Lake Facilities were initiated just after the turn of the last century by Telluride Canal Company and Utah-Idaho Sugar Company ("Sugar Company").[21] UP&L was organized in 1912. It acquired Telluride

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[21] A report prepared by IWRB provides this summary:

> In court proceedings preliminary to the Dietrich Decree, "U.S. District Court, Eastern Idaho, Dietrich Decree, Equity 203, deposition M. Cheever[,]" it was brought out that in 1901 the pioneer engineer, Mr. Lucien L. Nunn, initiated the first plans of construction for the use of Bear Lake as a storage reservoir for Bear River. Mr. Nunn was acting for the Telluride Power Co., a Colorado corporation. . . .
>
> . . . Mr. Nunn encountered problems in getting right-of-way title from the Interior Department for the U.S. lands located around the land and along canal routes. Application was made in 1902, but approval was not given until 1908.

IWRB, Bear River Basin Investigation (Feb. 1970), pp. 3-28.

The IWRB report incorrectly gives the date of the R.O.W. as 1908. In fact, Mr. Nunn's application was approved on 4/1/1907 as reflected in a notation by DOI Secretary Garfield on the bottom of the R.O.W. map. This R.O.W. is massive, encompassing all of Bear and Mud Lakes.

Power Company and other entities, and continued construction of the Bear Lake Facilities, completing the initial project in 1918 (consisting of the inlet and outlet canals and the Lifton Pump Station. See, Wallace N. Jibson, *History of the Bear River Compact* ("History of Compact") (Nov. 1991), p. 3 (reproduced in Attachment Z on page 287).

In 1912 (before the initial project was completed), UP&L and the Sugar Company entered into the *Conveyance and Agreement* ("Sugar Company Agreement") under which UP&L acquired the Sugar Company's property (including water rights). In return, UP&L agreed to provide specified flows for irrigation and other purposes.

By 1927, five hydropower plants were in operation (Soda, Grace, Cove, Oneida, and Cutler). See, History of Compact, p. 4 (reproduced in Attachment Z on page 287).

In 1987, PacifiCorp acquired UP&L.[22] In 2001, PacifiCorp was purchased by ScottishPower. In 2006, ScottishPower sold PacifiCorp to MidAmerican Energy Holdings Company, an Iowa corporation and an affiliate (90% owned) of Berkshire Hathaway. Since 2014, MidAmerican has been known as Berkshire Hathaway Energy.

Rocky Mountain Power and Pacific Power are divisions of PacifiCorp. Rocky Mountain Power serves about 1 million customers in southeastern Idaho and throughout Utah and Wyoming. Pacific Power serves about 800,000 customers throughout Oregon and in northern California and southeastern Washington.

It is shown on the Overview Map in Attachment D and the Project/Hereafter Maps Attachment E. Both maps label this area "1907 Secretary of Interior ROW."

Subsequently, at the request of DOI, UP&L submitted a map relinquishing a small portion of the R.O.W. lying within Mud Lake north of the Paris Dike, which relinquishment was approved by DOI on 7/19/1928. This was done because the Paris Dike functions as the northern boundary of Mud Lake. This modification retained, however, the R.O.W. to the Outlet Canal north of Paris Dike. This is also depicted on the Overview Map and Project/Hereafter Maps. Both maps label this area "1928 Reduction to 1907 ROW." This R.O.W. did not include the Rainbow Canal because, at the time of Mr. Nunn's application, the Ream-Crockett Canal (then the Dingle Inlet Canal) was expected to be the only canal carrying water from the Bear River. However, it proved to be too steep and erodible. Consequently, land for a new canal was acquired. UP&L constructed the Rainbow Canal in 1914, completed Stewart Dam in 1916, and built the Lifton Pump Station in 1917. The Rainbow Canal then became the primary conveyance of water to Mud Lake. IWRB, Bear River Basin Investigation, (Feb. 1970), pp. 3-29.

Note, by the way, that Mr. Nunn filed a "Notice of Appropriation of Water" for the original project with the predecessor of IDWR on 4/26/1902. That action has been superseded, of course, by the Dietrich Decree.

[22] *History of the Bear River Compact* by Wallace N. Jibson (Attachment Z beginning on page 287) incorrectly states that the acquisition took place in 1989.

B. Description of Bear River System facilities

As noted above, the Bear River System is composed of the Bear Lake Facilities and Downriver Facilities. A concise summary of the Bear River System is set out in the beginning of a 1990 decision of the Idaho Supreme Court:

> Bear Lake lies on the border between Idaho and Utah. Bear River begins high in the Uinta Mountains of Utah, meanders back and forth between Utah and Wyoming, flows north some distance into Idaho, and finally turns back south into Utah, where it terminates in the great Salt Lake. Bear River does not naturally enter Bear Lake; instead it flows past it a few miles to the north. In about 1917, however, the predecessor of Utah Power constructed Stewart Dam on the river, diverting the river's flow southward via canals into Mud Lake, which connects with Bear Lake. Bear Lake is thereby utilized as a reservoir. After the water reaches Bear Lake, it flows northward out of the lake, by gravity or through pumping, via an outlet canal to rejoin the old natural bed of Bear River some distance north of Stewart Dam. Between certain maximum and minimum limits (the height of the release gates and the depth of the pumping intake facilities), Utah Power can control the flow out of Bear Lake, and it can close the lake so that the flow continues directly down the river. The use of Bear Lake for water storage is the central feature of the whole system. The dam, canals, and control facilities are located within Idaho.

Kunz v. Utah Power & Light Co., 117 Idaho 901, 902 (1990).

Today PacifiCorp owns over 10,000 gross megawatts ("MW") of electrical generation capacity company-wide, and nearly 80,000 miles of transmission and distribution lines across the west. It owns and operates five hydroelectric plants with a total capacity of 108.7 MW on the Bear River downstream from Bear Lake. Four of the five plants are licensed by the Federal Energy Regulatory Commission ("FERC"); the fifth is exempt. (See description of licenses in section IV.C (PacifiCorp's existing FERC licenses) on page 31.)

PacifiCorp's electrical system interconnects with other utilities in over 100 locations enabling it to buy and sell energy with several other western utilities. This makes PacifiCorp a critical resource for supplying and moving energy throughout the western States.

Renewable energy sources have always been a part of PacifiCorp's resource mix. PacifiCorp's predecessor (UP&L) relied on hydroelectricity almost exclusively until the 1920s, and many of those plants still provide energy to customers after a century of

service. The Bear River System was UP&L's main source of electricity until about the 1930s, when coal-fueled power plants became the least expensive resource to meet the rapidly growing needs of its customers. This continued into the early 1980s. During this time, the company kept pace with developments in geothermal, solar, and wind power technologies. In 1984, PacifiCorp built the nation's first geothermal power plant outside of California. Beginning in 1998, advances in wind turbine designs prompted the company to begin investing in wind power due to its declining costs and improved reliability. Since 2000, when the company needed to build new power plants again, all of them have been either natural gas or wind.

PacifiCorp's Bear River System operations in Idaho and Utah may be divided into two groups: the existing Bear Lake Facilities (which do not generate hydropower) and the Downstream Facilities (which do generate hydropower).[23]

Although the Compacts allow releases solely for hydropower use when the elevation of Bear Lake is above the Irrigation Reserve, PacifiCorp operates the Bear Lake Facilities primarily for irrigation and flood control purposes. As explained in the Operations Agreement: "PacifiCorp agrees to continue to operate Bear Lake primarily for Bear Lake Water delivery under its contracts, or for flood control, depending on the level of Bear Lake [etc.]." Operations Agreement, ¶ 2(A), p. 3 (reproduced in Attachment V on page 217). "The Parties recognize that PacifiCorp's operations at Bear Lake and its downstream hydroelectric power plants on Bear River are separate operations and are not related, other than water released from Bear Lake is used for hydropower generation incidental to the other purposes for which water is released." Operations Agreement, ¶ 1(C), p. 2.

PacifiCorp and its predecessors have managed the Bear River System since 1912, providing water for irrigation, managing for flood control, and providing extensive electric power benefits in Idaho, Utah, and Wyoming.

PacifiCorp's Bear Lake Facilities divert all of the water from Bear River into the Mud Lake and Bear Lake complex. These are closed-basin lakes that operate together as a natural off-stream reservoir (known as the Bear Lake Reservoir). Water is stored in the reservoir and later released through the Outlet Canal Headgates near the north end of Mud Lake, where it continues flowing northerly in the Outlet Canal back to Bear River.

PacifiCorp's Bear Lake Facilities include Stewart Dam (on Bear River), Rainbow Canal (which conveys water from Stewart Dam to Mud Lake), the Ream-Crocket Canal (formerly known as Dingle Inlet Canal) and its intake, the Bear Lake Causeway Inlet (which releases water by gravity from Mud Lake into Bear Lake), the Lifton Pump

[23] The Bear Lake Facilities are described in section III on page 21. Their PLSS descriptions are set out in Attachment M (PLSS legal subdivisions) beginning on page 121. See definition of Bear Lake Facilities in Attachment A (Short names and definitions) beginning on page 1 for a list of included facilities.

Station, the Outlet Canal, and the Outlet Canal Headgates, all of which are used to divert, store, and release water to, in, and from Bear Lake Reservoir.

C. PacifiCorp's existing FERC licenses

At this time, PacifiCorp's Bear Lake Facilities do not produce power and are not subject to FERC licensing. *Bear Lake Watch, Inc. v. FERC,* 324 F.3d 1071 (9th Cir. 2003). In contrast, PacifiCorp's Bear River hydroelectric projects on the Bear River (the Downriver Facilities) are all licensed by FERC. (See discussion in section II.G at page 21 regarding licensing of the Dry Canyon Project.)

PacifiCorp is the owner, or majority owner, and operator of five downstream hydroelectric plants on the Bear River with a combined capacity of 108.7 MW:

- Bear River (77.0 MW) (FERC No. 20)[24] consisting of:
  - the Soda Development (14.0 MW) (original FERC No. 20)
  - the Grace Development[25] (33.0 MW) (original FERC No. 2401)
  - the Oneida Development (30.0 MW) (original FERC No. 472)
- Cutler (30.0 MW) (FERC No. 2420)
- Last Chance (1.7 MW) (FERC License Exemption No. 4580)

V. The Compacts

The first Bear River Compact, Pub. L. No. 85-348, 72 Stat. 38 (1958) ("Original Compact") was approved by Congress and signed by President Eisenhower on March 17, 1958. The Bear River Compact as Amended, Pub. L. No. 96-189, 94 Stat. 4 (1980) ("Amended Compact") was approved by Congress and signed by President Carter on February 8, 1980. A copy of the Amended Compact is set out in Attachment S on page 193.

Both Compacts contain two provisions addressing which State shall have jurisdiction to administer interstate water rights, and under which State's law they shall be administered.[26]

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[24] The Soda, Grace, and Oneida Projects originally were licensed separately. When re-licensed in 2003, 105 FERC ¶ 62,207 (12/22/2003), they were combined under the Bear River Project, FERC No. 20.

[25] The Cove Project (7.5 MW) was initially licensed under FERC No. 2401 as the Grace-Cove Project (40.5 MW). It later ceased operations, dropping the Grace Development to 33.0 MW. Cove is listed in the Operations Agreement, but ceased operations after that time.

[26] The pertinent language from the Amended Compact, art. X and XI is identical to that in the Original Compact, art. IX and X.

The first is in Article X, § B:

> All interstate rights shall be administered by the State in which the point of diversion is located . . . .

Amended Compact, Art. X, § B, p. 12.[27]

The second is in Article XI:

> Applications for appropriation, for change of point of diversion, place and nature of use, and for exchange of Bear River water shall be considered and acted upon in accordance with the law of the State in which the point of diversion is located . . . .

Amended Compact, art. XI, p. 12.[28]

VI. Dietrich and Kimball Decrees

Note: The extent, scope, and effect of the Decreed Rights are also discussed in section XII (Whether any change or appropriation is required) beginning on page 64.

The Dietrich Decree[29] and Kimball Decree[30] both resulted from litigation brought by UP&L (PacifiCorp's predecessor).[31] The Dietrich Decree was issued by a federal court in 1920. The Kimball Decree was issued two years later by a state court in Utah.[32] The result was a broad grant of authority to divert, store, and use the water of Bear River

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[27] All of Amended Compact, Art. X, § B is identical to Original Compact, Art. IX, § B.

[28] The quoted portion of Amended Compact, Art. XI is identical to Original Compact, Art. X, but other portions of the Article were changed.

[29] *Utah Power & Light Co. v. Last Chance Canal Co.*, Final Decree, Fed. Dist. Ct., D. Idaho (July 14, 1920) (Dietrich, J.) (unreported) ("Dietrich Decree"). A copy of the Dietrich Decree is set out in Attachment Q on page 145.

[30] *Utah Power & Light Co. v. Richmond Irrigation Co.*, Final Decree, Utah Dist. Ct., First Judicial Dist. (Feb. 21, 1922) (Kimball, J.) (unreported) ("Kimball Decree"). A copy of the Kimball Decree is set out in Attachment R on page 177.

[31] See footnote 21 at page 27 regarding a Notice of Appropriation in 1902 that preceded and is now superseded and subsumed by the Dietrich and Kimball Decrees.

[32] A detailed and comprehensive history of the Dietrich and Kimball Decrees and much of the entire history of water development is found in a 1973 master's thesis, R. Scott Wrenn, *A History of Water Resources Development in the Bear River Basin of Utah, Idaho, and Wyoming*, Graduate Dissertation, Utah State University (May, 1973) (www.digitalcommons.usu.edu).

and the Bear Lake Reservoir.

These adjudications are not statutory general adjudications (which apply *in rem* even to non-parties), because individual parties were named as defendants.[33] However, a very large number of water users in the Bear River basin were named, and their successors-in-interest are bound. For all practical purposes, they were comprehensive (if not technically "general") adjudications within their respective jurisdictional boundaries.

The Bear Lake Reservoir Decreed Rights were decreed to PacifiCorp's predecessor (UP&L) in the Dietrich Decree. The corresponding Kimball Decree in Utah adopted and decreed the same "Schedule of Rights" for these rights.[34]

To some extent the Decrees overlap. For example, both Decrees address PacifiCorp's Bear Lake Reservoir Decreed Rights. In most instances, however, the Decrees do not overlap geographically. With a few exceptions (notably, PacifiCorp's Bear Lake Reservoir Decreed Rights), the two Decrees assert jurisdiction and operate exclusively with respect to the portion of the Bear River and its tributaries that lie within the respective States of Idaho and Utah. Accordingly, most parties and their water rights are addressed in one decree or the other, not both.

The jurisdictional boundary of the Dietrich Decree encompasses the Bear River (and its tributaries) from Stewart Dam to the Idaho-Utah state line.[35] The jurisdictional

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[33] Idaho is now moving forward toward launching the first statutory general adjudication of Idaho water rights in the Bear River Basin. Utah commenced its statutory general adjudication of water rights in the Bear River Basin in 1949 and is close to completion.

[34] The Kimball Decree also adopted by reference the broader narrative description of the rights set out in the Dietrich Main Narrative, Dietrich Decree § I(2) (first two paragraphs), pp. 7-8 (Attachment Q on pages 153-154): "The quantity of water released from such storage [the Bear Lake Reservoir Decreed Rights] and to which the plaintiff is entitled, flowing in Bear River at the Utah-Idaho State Line at any given time shall be determined as provided in the final decree of the District Court of the United States for the District of Idaho, Eastern Division, in Equity No. 203 . . . ." Kimball Decree, § I(2), p. 6 (emphasis added).

[35] The jurisdictional boundary of Dietrich Decree:

> That there is hereby drawn within the jurisdiction of this court, for distribution for beneficial uses, under and pursuant to the terms of this decree, all that portion of Bear River, as above described, commencing at a point directly north of Bear Lake in Section 34, Township 13 South, Range 44 East, Boise Meridian, which said point is marked and indicated by the "Stewart Dam," and headgates to the plaintiff's intake canal into Bear Lake Reservoir, known as the "Rainbow Canal," thence generally northwesterly through Idaho, to a point near the town of Alexander, thence in a general southerly direction to the boundary line between the States of Idaho and Utah, together with all intervening tributaries of the Bear River, which are decreed to

boundary of Kimball Decree encompasses the Bear River (and its tributaries) downstream of the Idaho-Utah state line.[36]

Consistent with this division of jurisdiction at the state line, each decree contains a separate and mostly non-overlapping Schedule of Rights. The most significant exception is the inclusion of the Bear Lake Reservoir Decreed Rights in both Decrees.[37] The descriptions of the Bear Lake Reservoir Decreed Rights in the Schedule of Rights in each decree is identical, but the longer narrative description of the Bear Lake Reservoir Decreed Rights (the "Dietrich Main Narrative") appears only in the Dietrich Decree.

The Dietrich Decree includes an extensive and broad narrative description of the nature, scope, purpose, and location of PacifiCorp's Bear Lake Reservoir Decreed Rights.[38]

The Dietrich Decree discusses these rights in two places: the "Dietrich Main Narrative" and the "Schedule of Rights Narratives" discussed in the following sections.

> constitute a single inter-dependent river system, to be administered under the terms of this decree.

Dietrich Decree, § I(1), p. 7.

[36] The jurisdictional boundary of Kimball Decree:

> That there is hereby drawn within the jurisdiction of this court, for distribution for beneficial uses, under and pursuant to the terms of this decree, all that portion of Bear River, as above described, commencing at a point where said river crosses the Utah-Idaho state line in the Northwest quarter of Section 35, Township 15 North, Range 1 West, S. L. B. & M., thence in a general southerly direction to the Wheelon Power Plant of Utah Power & Light Company in Section 27, Township 13 North, Range 2 West, together with all intervening tributaries of the Bear River, which are decreed to constitute a single inter-dependent river system, to be administered under the terms of this decree. It is also the purpose of this decree, however, to adjudicate *in personam* the relative rights of the respective parties to this action in respect to the impounding and release of the flood water of said river above the said Utah-Idaho state line, and to the use of such water, either above or below the said state line in so far as such use may conflict with other uses of the water of Bear River or its tributaries, by any of the parties to this action.

Kimball Decree, § I(1), p. 5.

[37] The other exception is the inclusion of the four Cutler rights and four Sugar Company rights in both Decrees.

[38] The scope of the Bear Lake Reservoir Decreed Rights as established by the Dietrich and Kimball Decrees is sufficiently broad that the rights could be read to authorize PacifiCorp to undertake the Project without seeking a transfer. See discussion in section XII.A on page 64.

The Schedule of Rights is repeated verbatim in the Kimball Decree. The Dietrich Main Narrative is not repeated in the Kimball Decree, but it is adopted by reference (see footnote 34 on page 33).

Both Decrees include a "Schedule of Rights" setting out the elements of every right covered by the decree.[39] For each such right, the Schedule of Rights includes numerical information with respect to quantities, etc. as well as a narrative description of the rights. The Schedule of Rights Narratives for the Bear Lake Reservoir Decreed Rights are identical in the two Decrees.

The Schedule of Rights in both Decrees establishes the scope and purpose of the Bear Lake Reservoir Decreed Rights as follows:

> Said water to be diverted from Bear River through what is known as the Rainbow and Dingle Inlet Canals, the headworks of which are located respectively in [township, section, and range] in Bear Lake County, Idaho, and to be carried into and stored in what is known as the Bear Lake Reservoir and withdrawn therefrom from time to time as needed or required by said Utah Power & Light Company, or its successors in interest, for the development of power or generating electric energy in any power plant which it may now have, or hereafter construct or acquire in or along Bear River, in the states of Idaho and Utah, and for irrigation purposes in what is generally known as Bear River Valley in said states.
>
> Said water to be stored in what is known as Bear Lake Reservoir, and withdrawn therefrom from time to time, as provided in the immediately preceding paragraph.

Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) (emphasis added) and Kimball Decree § II(1), p. 10 (emphasis added) (Attachment R on page 187).

The Dietrich Main Narrative establishes the scope and purpose of the Bear Lake Reservoir Decreed Rights as follows:

> Subject to the prior rights of the various defendants, . . . the said plaintiff, the Utah Power & Light Company, has the right to divert at Stewart Dam, as hereinafter described, (and also in seasons of flood water through the "Dingle Inlet

[39] Dietrich Decree, § II, pp. 14-113; Kimball Decree, § II, pp. 10-69. The two schedules are mostly distinct lists limited to rights associated with the portion of the Bear River and its tributaries above or below the State Line. However the first rights listed in both schedules are PacifiCorp's four Bear Lake Reservoir Decreed Rights.

Canal" diverting from Bear River in [township, section, and range]) and to impound and store in the Bear Lake Reservoir, consisting of Bear Lake and Mud or North Lake, in Rich County Utah, and Bear Lake County, Idaho, all of the waters of Bear River to the extent of 5500 cubic feet per second of time, together with the waters naturally flowing into or arising in said lakes, all said waters to be stored in said Reservoir, and to be thereafter released from said reservoir at the said plaintiff's pleasure, through the plaintiff's embankment or "dyke" located within the meander lines, and extending from [township, section and range] by means of control works located therein at a point [township, section, and range], and to be thence conveyed through the plaintiff's outlet canal, extending generally northwesterly from the said control works to a confluence with Bear River, near [township, section, and range], and thence down the natural channel of Bear River, for use at various points of diversion now existing, or which may hereafter be established by the plaintiff for the generation of electric power, and for such irrigation or other beneficial purposes, recognized by law, as the plaintiff may devote or dedicate said released stored waters, by use, sale, rental, or otherwise.

In its exercise of the rights herein defined, the plaintiff may, to the extent of its various appropriations, divert and impound in storage the waters of Bear River and of Bear Lake at all times, and at all seasons of the year, when by so doing it does not interfere with the exercise of any prior rights fixed by this decree, and the waters released by it from storage may be conveyed through the natural channel of the river, and shall be protected under the provisions of this decree for the distribution designated by the plaintiff, as though kept and conveyed within an artificial channel, and the return of the waters to the river, after their various uses by the plaintiff, shall not be deemed an abandonment thereof, but it is recognized by this decree, and it shall be recognized by the officers charged with the administration hereof, that the plaintiff's rights in said waters continue throughout the portion of the stream brought under this decree for use both in Idaho and beyond the Utah-Idaho state line, and all parties to this suit . . . are hereby perpetually enjoined and restrained from in any manner using or interfering with the use by the plaintiff of said released stored waters, except with the consent and under authority of the plaintiff, its successors or assigns.

Dietrich Main Narrative, Dietrich Decree, § I(2), pp. 7-8 (Attachment Q on pages 153-154).

The period of use for hydropower and irrigation is established in the Dietrich Decree, § I(3), p. 10 (Attachment Q on page 156).

VII. PacifiCorp's existing Bear Lake Reservoir Decreed Rights

A. As described in the IDWR's database

IDWR displays the Bear Lake Reservoir Decreed Rights as four rights. They consist of two rights that we refer to as the "Stewart Dam Rights" and two that we refer to as the "In-Lake Rights." These are summarized in Attachment A, Table 2 on page 11. (UDWRi displays the Bear Lake Reservoir Decreed Rights in its database as a single right, No. 23-3929.)

Consistent with the Decrees, the Idaho water rights database displays two Stewart Dam Rights with different priority dates and quantities. Both rights divert from the same points of diversion on the Bear River. The In-Lake Rights include one right for inflows to Bear Lake and one right for inflows to Mud Lake.

IDWR's description of the Bear Lake Reservoir Decreed Rights in its online database is inconsistent in some respects with the Decrees. See Attachment K, Table 7 on page 116 for what PacifiCorp believes is a more accurate description of its existing rights. Accordingly, most of the differences between the "before change" description of the rights (Attachment K, Table 6 on page 116) and the "after change" description (Attachment L, Table 8 on page 118) are not changes at all; they merely reflect needed corrections in the database. The actual changes (differences between Table 7 and Table 8) are displayed in red on Table 8.

B. Points of diversion

The Bear Lake Reservoir Decreed Rights, based on the Dietrich and Kimball Decrees, have four points of diversion, all located in Idaho. There are two points of diversion from the Bear River into Bear Lake Reservoir. Two more points of diversion are also associated with storage in Bear Lake and storage in Mud Lake, respectively. The ITAP seeks no change in these points of diversion.

The Dietrich and Kimball Decrees recognize two points of diversion for the Stewart Dam Rights. Dietrich Decree, § II(1), p. 14; Kimball Decree, § II(1), p. 10:

- Stewart Dam, which diverts water into the Rainbow Canal
- The intake for the Dingle Inlet Canal (now known as the Ream-Crocket Canal)

The Decrees do not identify points of diversion for the In-Lake Rights. Instead, the Schedule of Rights Narratives simply refer to water "From Bear Lake" and "From Mud Lake" stating, "Said water to be stored in what is known as Bear Lake Reservoir . . . ." Schedule of Rights Narratives, Dietrich Decree, § II(1), p. 14 and Kimball Decree, § II(1), p. 10.

Under standard Idaho and Utah practice, the POD for an on-stream reservoir is the center of the dam or the location on the dam of a specific water release structure. By analogy, PacifiCorp views the points of diversion for natural inflows under the In-Lake Rights to be:[40]

- Lifton Pump Station (for natural inflows to Bear Lake) (Idaho No. 11-250)[41]
- Outlet Canal Headgates (for natural inflows to Mud Lake) (Idaho No. 11-251)[42]

The PLSS subdivisions for these points of diversion are provided in Attachment M, Table 9 on page 122. They are also described in Attachment B, section III.B beginning on page 23.

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[40] Although Bear Lake and Mud Lake are not in-stream reservoirs, the analogy to an in-stream reservoir for purposes of identifying the POD makes sense for the In-Lake Rights.

[41] PacifiCorp identifies the Lifton Pump Station as the sole POD for storage in Bear Lake under the In-Lake Rights. However, another POD also could be identified. (It is listed as "Alternative or additional POD" in Attachment M, Table 9, which begins on page 122.) Each POD is discussed below.

Lifton Pump Station: This point is chosen because the Bear Lake Causeway (on which the Lifton Pump Station is located) is a structure analogous to a dam and the Lifton Pump Station is the primary point of control for water release from Bear Lake. Thus, the Lifton Pump Station is analogous to a spillway or other release structure on a dam. (The Lifton Pump Station is listed as a POD on page 1 of the Idaho Appropriation Application (Water Right No. 11-7835).)

Bear Lake Causeway Inlet: On occasion, water is also released from Bear Lake into Mud Lake via the Bear Lake Causeway Inlet (a bi-directional structure that usually allows water to flow from Mud Lake into Bear Lake). Thus, the Bear Lake Causeway Inlet could be seen as a second POD for Bear Lake Storage. (By the way, the Bear Lake Causeway Inlet (aka Bear Lake Inlet) is listed as a POD in the Point of Diversion/Place of Use Supplement to the Idaho Appropriation Application (Water Right No. 11-7835).)

PacifiCorp has no objection to identifying the Bear Lake Causeway Inlet as an additional or alternative POD for Bear Lake storage, if that is deemed appropriate by IDWR or UDWRi. However, doing so would not be a change; it would instead be a correction to the pre-transfer description of the Bear Lake Reservoir Decreed Rights.

[42] Page 1 of the Idaho Appropriation Application (Water Right No. 11-7835) lists the Outlet Canal Headgates (aka Outlet Canal Gates) as a POD, but it is not listed as a POD in the Point of Diversion/Place of Use Supplement.

IDWR's database and the corresponding Part 2A Reports do not identify these points of diversion correctly. *See* footnote 109 in Attachment K on page 115. PacifiCorp suggests that IDWR's database could be administratively updated to display the pre-transfer Bear Lake Reservoir Decreed Rights as shown in Attachment K, Table 7 on page 116.

C. Purposes of use

The Bear Lake Reservoir Decreed Rights, as defined in the Dietrich and Kimball Decrees, expressly authorize irrigation, power, and storage, as well as the catch-all "other beneficial purposes."

Attachment K, Table 7 on page 116 identifies the following beneficial uses now being made of the Bear Lake Reservoir Decreed Rights:

- Diversion to Storage
- Power Storage
- Irrigation Storage
- Stockwater Storage
- Power from Storage
- Irrigation from Storage
- Stockwater from Storage
- Flood Control Storage
- Flood Control Release from Storage

"Other beneficial purposes" could be identified as well based on the language of the Dietrich Decree. See footnote 97 on page 69. However, PacifiCorp has identified only the uses listed above for purposes of this application. As discussed in section VIII.B.1 on page 41, this list of uses should not be construed as a constraint on claims PacifiCorp might make in other forums.

D. Places of use

The Decrees authorize permissible places of use for irrigation, power, and storage. See section XII.B.3 on page 68. These are broadly described as follows:

- Irrigation = "what is generally known as Bear River Valley"
- Power = existing or future facilities "in or along Bear River" and in "various points of diversion now existing, or which may hereafter be established"
- Storage = "Bear Lake Reservoir, consisting of Bear Lake and Mud or North Lake"

E. Period of use

The Dietrich Decree sets the period of use for hydropower (year round) and irrigation (April 20 to September 30). Dietrich Decree, § I(3), p. 10 (Attachment Q on page 156).

F. Quantity

The Bear Lake Reservoir Decreed Rights are described by the Decrees[43] solely in terms of flow rates, providing a total of 5,500 cfs from Bear River diversions and 500 cfs from inflows to Bear Lake and Mud Lake, for a total of 6,000 cfs. See Attachment K, Table 7 on page 116.

The courts' decision to include no volume limit was deliberate. See section XII.B.2 at page 66.

Given that PacifiCorp is entitled to divert and store what amounts to the entire flow of the Bear River (under the Stewart Dam Rights) and all natural inflow to Bear and Mud Lakes (under the In-Lake Rights), and that none of these rights are limited by volume, this transfer entails no enlargement.

VIII. Alternative ways of describing the effect of the transfer and the scope of the post-transfer rights

A. First alternative: Simple recognition of authority to operate the Dry Canyon Project

IDWR's database does not fully and accurately display the scope of the Bear Lake Reservoir Decreed Rights as established in the Dietrich and Kimball Decrees. (Compare Table 6 and Table 7 in Attachment K on page 116.) This is of little consequence, however, because the Decrees, not the database, are controlling.

In any event, there is no need to resolve all potential issues respecting the scope of the Bear Lake Reservoir Decreed Rights. PacifiCorp seeks only an order recognizing that those rights may be deployed for beneficial use at the Dry Canyon Project.

Accordingly, there is no need to issue a detailed post-transfer description of the Bear Lake Reservoir Decreed Rights. Instead, an order to the following effect could suffice:

> The transfer of PacifiCorp's water rights Nos. 11-248, 11-249, 11-250, and 11-251 is hereby approved, subject to

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[43] See Kimball Decree, § II(1), p. 10 (Schedule of Rights) (Attachment R on page 187 of the ITAP) and Dietrich Decree, § II(1) (Schedule of Rights), p. 14 (Attachment Q on page 160 of the ITAP).

conditions set out below. Pursuant to this approval, PacifiCorp is authorized, subject to the stated conditions, to allow water stored in Bear Lake Reservoir under those rights to be directed to and stored in the Lower and Upper Reservoirs for power purposes when and as desired by PacifiCorp (up to their active capacities of 23,730 AF plus dead storage in the Upper Reservoir of 3,150 AF), and to release water from the Upper Reservoir to the Lower Reservoir when and as desired by PacifiCorp in order to generate energy at the Dry Canyon Powerhouse.

So far as PacifiCorp is concerned, such an order is all that is required. This approach has the advantage of avoiding an administrative "adjudication" of any other aspect of the Decreed Rights that are not at issue in this change/transfer and, therefore, do not need to be resolved now.

B. Second alternative: Detailed specification of water right elements

On the other hand, IDWR may deem it appropriate to go beyond the minimal approval language suggested above and issue new water right documents that describe the post-transfer water rights in a level of detail conforming to IDWR's modern format.

If so, PacifiCorp requests that the post-transfer water rights be approved as shown in Attachment L, Table 8 on page 118.

1. No new purposes of use

PacifiCorp seeks no new purpose of use for the Dry Canyon Project. The new Project's only beneficial uses are Diversion to Storage, Power Storage, and Power from Storage, which are among the ongoing authorized uses of the Bear Lake Reservoir Decreed Rights.

As noted in section VII.C on page 39, additional uses for those existing rights could be included based on the broad language of the Dietrich Decree (footnote 97 on page 69). However, there is no need in this transfer proceeding to resolve questions regarding the scope and effect of the decree language for any purpose of use other than hydropower production. Such questions are beyond the scope of these proceedings and are appropriately reserved for the general adjudication.

Accordingly, the purposes of use listed in the "before" or "after" portion of this application (Attachment K, Table 7 on page 116 and Attachment L, Table 8 on page 118) are limited to the ongoing uses, and are not intended as a constraint on any claim or position PacifiCorp might take in the upcoming Bear River Basin Adjudication or any other proceeding in which they become relevant.

2. Possible new points of diversion or rediversion

The Dry Canyon Project entails up to four potential new points of diversion or rediversion, all located in Idaho. These potential points of diversion or rediversion are associated with (1) pumping to the Upper Reservoir, (2) storage in the Upper Reservoir, (3) delivery to storage in the Lower Reservoir, and (4) storage in the Lower Reservoir.

For the reasons discussed below, PacifiCorp believes they do not constitute new points of diversion or rediversion under Idaho practice. These are discussed in turn below.

Ultimately, IDWR will need to decide whether any of these constitute points of diversion or rediversion. Accordingly, PacifiCorp presents complete information as to all four to ensure that the application is complete. See Attachment M (PLSS legal subdivisions), Table 11 on page 124, Attachment B, section II.D (Potential alternative location for Lower Reservoir) on page 19, and Attachment G, Table 3 (Reservoir dimensions and volumes) on page 105.

(a) Diversion of water to fill the Upper Reservoir

PacifiCorp does not believe the water diverted from the Lower Reservoir to the Upper Reservoir (via the penstock intake to the pump located in the Dry Canyon Powerhouse) constitutes either a point of diversion or a point of rediversion under Idaho practice. These are simply facilities used internally by PacifiCorp to convey water previously diverted and stored in Bear Lake Reservoir under the Bear Lake Reservoir Decreed Rights.

When water is stored in a reservoir under the control of the appropriator, deliveries to beneficial uses are not deemed "points of diversion" under Idaho practice.[44] In an on-stream reservoir, water is released by the dam, where it continues on downstream to be re-diverted by water users. Typically, these water users also have natural flow rights out of the same stream, which are supplemented with released storage water when natural flow is inadequate. Their natural flow water rights specify a point of diversion, but the released storage water is not diverted under those natural flow rights. The water is

[44] This is in sharp contrast, by the way, to Utah practice. Utah employs the term "point of rediversion" to describe where water that is released from storage to a natural stream is re-diverted downstream for application to land for irrigation or other purposes. By analogy, Utah would likely deem the delivery of water from the Lower Reservoir to the Upper Reservoir to constitute a new point of rediversion. The UDWRi online Glossary of Terms defines a point of rediversion as follows: "Refers to a specific point of diversion category in the Utah Division of Water Rights records. A point of rediversion refers to a diversion point, which diverts water which was previously diverted and released upstream. Usually associated with reservoir storage." (https://waterrights.utah.gov/wrinfo/glossary.asp)

simply diverted at the same point of diversion as the natural flow right pursuant to a spaceholder contract or other arrangement with the reservoir operator.[45]

Where water is stored in an off-stream reservoir, the point of diversion occurs where water is diverted from a natural stream for delivery to the reservoir. The point where water is subsequently taken from the off-stream reservoir and delivered to beneficial use is not deemed a "point of diversion" or "rediversion" for the storage right. An example is Lake Lowell.[46] That system, operated by the Boise Project Board of Control for the benefit of several irrigation districts, diverts natural flow[47] from the Boise River into the New York Canal, which delivers the water to Lake Lowell, a man-made lake 15 miles away. After storage in Lake Lowell, water is delivered to systems operated by various irrigation districts. Various facilities controlled by the irrigation districts divert water stored in Lake Lowell to their respective delivery systems. None of these are deemed points of diversion on the Bureau's water right. In essence, the plumbing that delivers water from an off-stream reservoir to a beneficial use is not defined as part of an Idaho water right.

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[45] Less commonly, water in an on-stream reservoir is redirected to ditches directly out of the reservoir. These are sometimes described as points of rediversion. An example is Payette Lake, a natural lake on the North Fork Payette River whose elevation was raised by a dam to create a man-made impoundment. Water is stored under water right No. 65-2278 held by Lake Reservoir Co. The stored water is then released from the lake into the river for diversion at various points of rediversion operated by several downstream irrigation entities. The water right notes the existence of these points of rediversion, but they are not listed under the description for "points of diversion." Instead, they are noted under the description of place of use: "Points of rediversion and places of use are those of Emmett Irrigation, Farmers Co-op, Enterprise, Letma, Nobel & Lower Payette Ditches." Partial decree for No. 65-2278, under heading "Place of Use."

[46] Lake Lowell is located in Basin 63 (Boise River) in Canyon County, five miles southwest of Nampa, Idaho. It is a man-made, off-stream storage reservoir with approximately 9,800 surface acres and 28 miles of shoreline containing approximately 173,000 acre-feet of water. The impoundment is created by a set of three dikes and the Deer Flat Upper Embankment, which is an earthen dam completed in 1908 by the Bureau of Reclamation, with a height of 74 feet and 4165 feet long at its crest. Water is diverted from the Boise River into the New York Canal approximately 15 miles to the east of Lake Lowell at T2N, R3E §3, NWSW. Water right No. 63-301A held by the US Bureau of Reclamation ("BOR") is currently associated with Lake Lowell. This right, decreed by the SRBA Court in 2014, is the latest permutation of a right that originated with a license in 1913, and which was subsequently decreed in a private adjudication in 1929 known as the "Bryan Decree."

[47] In addition to its natural flow water rights, the Boise Project also diverts water stored in and released from federal reservoirs on the Boise River. These diversions of stored water are made pursuant to spaceholder contracts with the Bureau of Reclamation. The Bureau holds its upstream storage rights in trust for the irrigators and other users.

More broadly stated, the practice in Idaho (except for special circumstances[48]) is that delivery of water from storage to its place of use is not a "rediversion" or "point of diversion" defined in the storage right. This is true both for downstream rediversion of water released from an on-stream reservoir and for the delivery of water to beneficial uses taken from an off-stream reservoir. This practice comports with Idaho Code § 42-110, which states: "Water diverted from its source pursuant to a water right is the property of the appropriator while it is lawfully diverted, captured, conveyed, used, or otherwise physically controlled by the appropriator."

PacifiCorp suggests that the Lower Reservoir is analogous to an off-stream reservoir. (For that matter, all of Mud Lake Regulation Reservoir may be described as an off-stream reservoir.[49]) Hence, pumping water from the Lower Reservoir to fill the Upper Reservoir (and ultimately to produce energy when water is released back to the Lower Reservoir) appears to be most analogous to that of delivering water from an off-stream reservoir to a beneficial use. Thus, removal of water from the Lower Reservoir would be no different than removal of water from Lake Lowell (discussed above). Neither is a point of diversion or rediversion, under Idaho law and practice.

Even if IDWR viewed the Lower Reservoir as an on-stream reservoir, the release of water from an on-stream reservoir is not ordinarily treated as either a point of diversion or rediversion in Idaho practice. Pumping water to the Upper Reservoir also is analogous to release of water from an on-stream reservoir (discussed above).

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[48] Idaho employs the term "point of rediversion" more narrowly to describe the relatively rare situation where water is diverted from one stream, "injected" into another stream, and then "re-diverted" to a storage facility or other use. An example of this is a storage and direct flow right (No. 63-19893) for the Mountain Home Reservoir operated by Mountain Home Irrigation District. Under the "points of diversion" heading, the right lists the original point of diversion from Little Camas Creek, a point of injection into East Fork Long Tom Creek (a tributary of Canyon Creek), and a point of rediversion from Canyon Creek. Thus, where water is injected back into a natural stream (and thus is outside the control of the appropriator) and subsequently re-diverted from that natural stream, the injection and rediversion are considered additional points of diversion.

[49] Indeed, the Bear Lake Reservoir (which includes Bear Lake and Mud Lake) has been described as an off-stream reservoir. "In the early 1900's the Telluride Power Company and the Utah Sugar Company began construction work to utilize the lake as an off-stream reservoir by diverting part of the waters of Bear River into Bear Lake. . . . The Utah Power and Light Company, in 1912, acquired the storage development interests of the Telluride Power Company and the Utah Sugar Company. The Utah Power and Light Company constructed a pumping plant at the north end of Bear Lake, built dikes around Mud Lake, and constructed new inlet and outlet canals of large capacity." DOI Report, pp. 2-4 (emphasis added) (reproduced in Attachment Y on page 243).

In sum, whether viewed as an off-stream or on-stream reservoir, once water is stored in the Lower Reservoir, any subsequent release or delivery therefrom would not seem to constitute a point of diversion or rediversion under Idaho practice.

In the event IDWR disagrees and determines that this constitutes a point of diversion, PacifiCorp has displayed the locations of the structures that direct water to fill the Upper Reservoir. See "Pumping Intake / Powerhouse Tailrace" in Attachment M ("PLSS legal subdivisions"), Table 11 on page 124.

(b) Storage in the Upper Reservoir

As discussed in section VII.B on page 37, the storage of water in an on-stream reservoir entails a point of diversion. That point of diversion is typically the center of the dam or other diversion structure.

In contrast, storage in an off-stream reservoir and other storage vessels (such as a water tank) does not entail a point of diversion for the storage itself. Instead, the point of diversion is the point at which water is diverted from the natural stream or water body.

Because the Upper Reservoir is plainly an off-stream reservoir, PacifiCorp does consider it to be a new point of diversion.

In the event IDWR disagrees and determines that this constitutes a point of diversion, PacifiCorp has displayed the locations of the structures that will impound water in the Upper Reservoir. See "Upper Reservoir – Dam" in Attachment M ("PLSS legal subdivisions"), Table 11 on page 124.

(c) Diversion of water from Mud Lake to initially fill the Lower Reservoir

The Lower Reservoir will be constructed within Mud Lake. Its design will allow water to be stored at an elevation within the vessel above the elevation of Mud Lake. Water from Mud Lake (part of the Bear Lake Reservoir) will enter the Lower Reservoir as described in section II.C on page 17.

PacifiCorp views the Lower Reservoir as an off-stream reservoir. Ordinarily, water must be diverted from a public water supply (such as a river) in order to fill an off-stream reservoir. When that occurs, it is deemed a diversion.

Here, however, the water in Bear Lake Reservoir (which includes Mud Lake) is already diverted and stored under the Bear Lake Reservoir Decreed Rights. Given that the water is already under PacifiCorp's control, the delivery of this previously stored water into the Lower Reservoir should not be viewed as a diversion under Idaho practice. In other words, as with the filling of the Upper Reservoir with water stored in the Lower Reservoir, using water stored in Mud Lake (part of Bear Lake Reservoir) to fill the Lower Reservoir should be viewed as analogous to water taken from Lake Lowell (described

above) to serve beneficial uses. None of these constitutes points of diversion or rediversion.

In the event IDWR disagrees and determines that opening gates to fill the Lower Reservoir constitutes a point of diversion, PacifiCorp has displayed sufficient information describing those gates and control structures. See "Lower Reservoir – Gates" in Attachment M ("PLSS legal subdivisions"), Table 11 on page 124.

(d) Storage in the Lower Reservoir

The storage of water within the Lower Reservoir itself should not be seen as a new point of diversion. As noted above, PacifiCorp believes that the Lower Reservoir is an off-stream reservoir, in which case there would seem to be no need to identify a point of diversion for the storage vessel itself.

In the event IDWR disagrees and determines that this constitutes a point of diversion, PacifiCorp has provided sufficient information to allow those points of diversion to be identified for the containment of water at the Lower Reservoir. In such case, the points of diversion would be the same gates referenced in the section above. These gates are analogous to the dam center point or control structure on an on-stream reservoir. See "Lower Reservoir – Gates" in Attachment M ("PLSS legal subdivisions"), Table 11 on page 124.

3. New places of use for the Dry Canyon Project

This application seeks a change in place of use to add the Upper Reservoir and the Dry Canyon Powerhouse. See Attachment L, Table 8 on page 118 for a depiction of how the post-transfer rights would be displayed.

There is room for debate as to whether the broad place of use descriptions in the Decrees extend to the Project facilities. (See section XII.B.3 on page 68.) PacifiCorp believes that the Decrees should be read in light of their overall purpose and spirit, which is evidently intended to grant broad flexibility to develop and implement new hydropower uses and thereby achieve greater nonconsumptive beneficial uses.

Although PacifiCorp preserves the argument that no change is required, it has submitted to the jurisdiction of IDWR and UDWRi by filing the ITAP and UCAP. The agencies, however, could determine that no transfer or change is necessary based on the broad, forward-looking scope of the Bear Lake Reservoir Decreed Rights.

One way or the other, PacifiCorp requests confirmation that water stored in Bear Lake Reservoir under its decreed rights may be re-directed internally to and stored in the Upper and Lower Reservoirs and used beneficially for power generation at the new power plant adjacent to Mud Lake. Specifically, PacifiCorp asks that IDWR either:

(1) confirm that PacifiCorp's decreed rights authorize storage and power generation anywhere in the Bear River Valley (without need for a transfer),

or

(2) approve a transfer adding the following places of use for the Bear Lake Reservoir Decreed Rights:

- Add the Dry Canyon Powerhouse as a place of use for hydropower generation.
- Add the Upper Reservoir as a place of use for storage.
- As noted, PacifiCorp does not view the Lower Reservoir as a new place of use under any circumstance (because it is located within the footprint of Mud Lake, an authorized place of use). If IDWR views this differently, PacifiCorp asks that the Lower Reservoir also be added as a new place of use for storage.

4. Volume of storage for the Dry Canyon Project

In the event IDWR decides to describe and quantify the post-transfer water right in detail, it will need to consider whether (and, if so, how) to quantify the volume of storage. The Dietrich and Kimball Decrees quantify the rights only in terms of flow rate without a volume constraint.[50] See Kimball Decree, § II(1), p. 10 (Schedule of Rights) (Attachment R on page 187) and Dietrich Decree, § II(1) (Schedule of Rights), p. 14 (Attachment Q on page 160). PacifiCorp believes no volume should be stated. If a volume is stated, it should be identified as descriptive of the size of the Upper and Lower Reservoirs and not as an element of the water right. Its operational effect should be understood in the context of the Decrees, which anticipate and authorize multiple fills and additional power production. (See further discussion of the volume issue in section XII.B.2 on page 66 and, in particular, footnote 91 on page 67.)

The storage capacity of large irregular water bodies (like the Bear Lake Reservoir) can only be estimated. The volumes in Attachment G, Table 3 on page 105 show the current best estimate (subject to revision) of the storage capacity of each reservoir component.

IX. Mitigation for downriver effects of depletions

IDWR could determine that PacifiCorp may undertake the Project based on its existing Bear Lake Reservoir Decreed Rights without a transfer (see section XII on page 64) and that mitigation is therefore not required. Likewise, IDWR could determine that even if a transfer is required (to add new places of use and/or points of diversion), no

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[50] As noted in the DOI Report, p. 7 (reproduced in Attachment Y on page 243), "The decree did not place a limit on the maximum storage which might be created in Bear Lake, or differentiate between power and irrigation-storage water interests."

mitigation is required based on the broad scope (and absence of a volume component) of the Bear Lake Reservoir Decreed Rights (see discussion in section XII.B.2 on page 66).

Nevertheless, PacifiCorp is prepared to mitigate for the Dry Canyon Project. A copy of PacifiCorp's currently proposed Mitigation Plan is in Attachment O on page 133.

Although the Project is predominantly nonconsumptive, two Project components will have a small but measurable effect on downstream water availability: (1) the initial fill of dead pool in the Upper Reservoir and (2) evaporative loss from the Upper Reservoir. These are the only Project components that will "remove water from the system." These are effects that, in the ordinary case, would be addressed in a mitigation plan.

Note that no mitigation is needed to protect (keep whole) PacifiCorp's irrigation water contractees (who receive water diverted and stored under the Bear Lake Reservoir Decreed Rights).[51] PacifiCorp's duty to its contractees is undiminished and will be fully met. See discussion in section X (Bear Lake elevation considerations) on page 50. The Mitigation Plan will provide an added layer of protection to ensure that other downstream water rights (i.e., direct flow rights out of the Bear River) are not injured.

The depletion effects of each Project component are summarized below (and in Attachment H, Table 4 (Depletion and elevation impact summary) on page 107):

Project components addressed in the Mitigation Plan:

1. *Dead pool—Upper Reservoir*. The initial fill of dead storage in the Upper Reservoir (3,150 AF) will occur with water from Mud Lake. This is water that would otherwise be available for release to downstream irrigators that will essentially be "lost to the system." This effect will be fully mitigated under PacifiCorp's Mitigation Plan. The dead pool will be filled only once. Hence, this is a one-time mitigation (albeit one that may take some years to complete).

2. *Evaporative loss—Upper Reservoir*. There will be ongoing evaporative loss (20 AF per year) from the Upper Reservoir. Like the initial fill of the dead pool in the Upper Reservoir, this water is "lost to the system" and will be fully mitigated on a permanent, ongoing basis as provided in PacifiCorp's Mitigation Plan.

[51] Mitigation under the prior appropriation system is aimed at third parties (other water users). It is not concerned with the contract-based obligations to deliver water. Those duties are enforced pursuant to contract law, not water law. In any event, the Dry Canyon Project will do nothing to impair the rights of PacifiCorp's contractees or PacifiCorp's ability to fulfill its contract obligations.

Project components with no downstream depletion effect:

1. *Active storage—Upper and Lower Reservoir.* In contrast to the dead pool in the Upper Reservoir, under the current operating regime all water in active storage may be released to downstream users when necessary to meet PacifiCorp's contractual obligations or any call. In other words, it will remain legally and physically available to meet any obligation. Accordingly, unlike the fill of the Upper Reservoir dead pool, water stored in the surcharge area is not "lost to the system." Consequently, there is no depletion to mitigate.[52]

2. *Seepage loss—Upper Reservoir*. PacifiCorp does not intend to mitigate for seepage loss from the Upper Reservoir because (a) the Upper Reservoir will be fully lined with an impermeable PVC or similar liner that will reduce seepage losses and (b) any seepage from the Upper Reservoir will infiltrate as ground water tributary to Bear Lake and therefore will not be "lost to the system."

3. *Seepage loss, evaporation, and dead pool—Lower Reservoir*. PacifiCorp does not intend to mitigate for seepage loss, evaporation, or dead pool water in the Lower Reservoir. Because the Lower Reservoir is located within Mud Lake, seepage, evaporation, and the filling of the dead pool will be no different than the status quo ante.

In the event the Lower Reservoir design or location is changed as a result of the NEPA alternatives analysis or other regulatory considerations, updated information (and adjustments in the Mitigation Plan, if needed) will be provided to IDWR and UDWRi. See discussion in section II.D (Potential alternative location for Lower Reservoir) on page 19.

PacifiCorp's Mitigation Plan is based on what the Department calls "Type II" mitigation, that is, mitigation based on non-use of existing water rights by drying up currently irrigated acres.[53]

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[52] As a practical matter, it is unlikely that it would ever be necessary to release water from active storage in the Upper and Lower Reservoirs to meet PacifiCorp's irrigation contract obligations. Instead, as is the case now, water will be released from Bear Lake to meet downstream contract obligations. However, PacifiCorp is required under its federal right-of-way to release water from the Upper and Lower Reservoirs as well if doing so were necessary to meet contract obligations.

[53] Type I and II mitigation is discussed in IDWR's *Application Processing Memo #71, Transfer Processing Memo #27* (Nov. 4, 2015) and *Application Processing Memo #72* (Nov. 4, 2015).

Storage in the Upper Reservoir (with an estimated 182 surface acres) may result in ongoing depletions to the water system through evaporative loss. Although arguably not obligated to do so, PacifiCorp proposes to mitigate for these depletions through a permanent retirement of 14.9 acres irrigated with Bear River water, which land is owned by PacifiCorp in Cache Valley, Utah. This will increase the water available in the Bear River upstream of irrigated lands served by PacifiCorp's Bear Lake Reservoir Decreed Rights.

The initial fill of the dead pool in the Upper Reservoir will also constitute a one-time depletion to the water system. PacifiCorp proposes to mitigate for the initial fill of dead storage by a multiple-year retirement of irrigated acres currently owned by PacifiCorp in the Cache Valley subbasin. For example, if PacifiCorp retired 226.28 acres of irrigated land (i.e., the balance of irrigated acres under the right proposed for mitigation of ongoing evaporative losses, described above), mitigation for initial fill would be accomplished in 10.4 years. This is further explained in the Mitigation Plan in Attachment O on page 133.

PacifiCorp's proposed mitigation is a conservative (i.e., fully protective) proposal in that it fully mitigates for the initial fill of dead storage space and assumes the maximum annual depletions that might result from evaporative losses. It is also conservative because it does not consider the current (pre-construction) evapotranspiration from the 182-acre footprint of the Upper Reservoir as an offset to future evaporative loss from the reservoir surface.

The proposed dry-up of irrigated acres would happen in Utah. Rather than IDWR, the Utah State Engineer may be the proper authority and better equipped to enforce the dry-up of irrigated acres under the Mitigation Plan. PacifiCorp requests that the states of Idaho and Utah work cooperatively and obtain the State Engineer's commitment to enforce a mitigation plan approved by IDWR. One option may be that such commitment be obtained prior to any IDWR final action on the ITAP, and then formally incorporated into a subsequent Order of the Utah State Engineer approving the Utah change application in conformance with the IDWR decision.

X. Bear Lake elevation considerations

Water depletion effects of the Project on downstream users are addressed by PacifiCorp's Mitigation Plan discussed in the preceding section. Another effect of the Project—impact on Bear Lake elevation—is unique to this transfer application. It is not injury in the traditional sense (downstream depletions to the water system). It is an impact to lake elevations that is relevant to contractual and other obligations tied to lake levels in Bear Lake.[54] See footnote 51 on page 48.

[54] See section XI (Summary of contracts, agreements, and other obligations bearing on Bear River System operations) on page 54.

Many of PacifiCorp's obligations are expressed in terms of Bear Lake elevation levels.[55] Storage in the Upper and Lower Reservoirs will affect lake levels in Bear Lake minimally (owing to the modest size of the reservoirs compared to the size of Bear Lake).[56]

The two components of the initial fill that could physically affect the elevation of Bear Lake are the Upper Reservoir dead pool (3,150 AF) and the surcharge area of the Lower Reservoir (16,053 AF). The only other Project component that could affect Bear Lake levels is evaporation from Upper Reservoir (20 AF/year).[57]

These elevation effects are extremely small. The calculation of Project effects on Bear Lake elevations is based on the conservative assumption that any water drawn from Mud Lake for the initial fill of the Project or lost due to evaporation would result in a gallon-for-gallon reduction in the volume of water in Bear Lake. The water will come from somewhere in Bear Lake Reservoir; PacifiCorp conservatively assumes that it will come from Bear Lake rather than Mud Lake. The conversion factor (that converts volume to elevation) is explained in the footnote.[58]

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[55] See Attachment I, Table 5 (Bear Lake elevations) on page 109.

[56] The Dry Canyon Project's active storage capacity (23,730 AF) is 1.67 percent of the active storage capacity of Bear Lake (1,421,000 AF) and 0.37 percent of the total volume of Bear Lake (6,500,000 AF).

[57] While the initial fill of the Project will temporarily affect Bear Lake elevations, ongoing Project operations (other than evaporative loss from the Upper Reservoir) will not. The Dry Canyon Project is expected to be constructed as a closed-loop pumped storage project entirely contained within the Upper and Lower Reservoirs. Accordingly, daily operation of the Project will move water back and forth between the reservoirs, but will have no effect on either Bear Lake or Mud Lake elevations.

As explained in the context of the Mitigation Plan (section IX beginning on page 47), evaporation from the Lower Reservoir will be no different from existing evaporation from Mud Lake and, hence, will have no effect on Bear Lake elevation. Likewise, the portion of active storage below surcharge area and in the dead pool of the Lower Reservoir will have no effect on the elevation of Bear Lake, because that water is already in Mud Lake. The same is true for any seepage therefrom. Any seepage from the lined Upper Reservoir will return to Bear Lake and, hence, not affect the lake elevation.

[58] Because Bear Lake is slope-sided, the impact of a reduction in the volume of water on the level of Bear Lake will vary depending on the elevation of the lake. This calculation of the reduction in elevation is based on two data points.

- The elevation for "low runoff year" PTE is 5,920.00 feet, which corresponds to 1,164,982 AF of active storage (per PacifiCorp data).
- The elevation for "normal runoff year" PTE is 5,918.00 feet, which corresponds to 1,025,861 AF. (See Attachment I, Table 5 on page 109 for both of these data points.)

The initial fill of the Upper Reservoir dead pool (3,150 AF), if not mitigated, would cause a decline in the elevation of Bear Lake of 0.05 feet (or 0.54 inches).[59] The initial fill of the surcharge area of the Lower reservoir (16,053 AF) would cause a decline of 0.23 feet (2.77 inches).[60] The sum of the initial fill impacts is 0.28 feet (or 3.31 inches).[61] The net evaporation losses from the Upper Reservoir (20 AF per year), if not mitigated, would result in an elevation decline of 0.0003 feet (or 0.003 inches).[62] In other words, the physical change in elevation is capable of calculation. That calculation is physically measurable in Bear Lake in the case of the initial fill (3.31 inches) and immeasurable in the case of net evaporative loss (0.003 inches).

Even these physical elevation effects will not occur to the extent the dead pool initial fill and net evaporation losses are mitigated under the Mitigation Plan. On the other hand, there will be lag time effects under the Mitigation Plan, which may take some years to fully offset the impact of the dead pool initial fill.

Moreover, the physical effect of the initial fill will last only until a wet year fills the "hole" in Bear Lake.[63]

This is a difference in elevation of 2.00 feet (5,920.00 - 5,918.00 = 2.00). The lake volume difference corresponding to this change in elevation is 139,121 AF (1,164,982 - 1,025,861 = 139,121). This yields a conversion factor of 69,560.5 AF per one-foot change in Bear Lake elevation (139,121 ÷ 2.00 = 69,560.5). This conversion factor is employed in the calculations set out in the footnotes below.

[59] Applying this conversion factor to the Upper Reservoir dead pool yields an elevation effect of: 3,150 ÷ 69,560.5 = 0.05 feet (or 0.54 inches).

[60] For the Lower Reservoir surcharge area, the elevation effect is: 16,053 ÷ 69,560.5 = 0.23 feet (or 2.77 inches).

[61] The sum of the two initial fill impacts is: (3,150 + 16,053 = 19,203) ÷ 69,560.5 = 0.28 feet (which is 3.31 inches).

[62] The impact of evaporative loss on Bear Lake elevations is microscopic: 20 ÷ 69,560.5 = 0.0003 feet (or 0.003 inches).

[63] In a "dry year" (when PacifiCorp captures and stores as much water as possible while filling Bear Lake Reservoir), any "hole" in Bear Lake caused by the initial fill of the Project will carry over until the next year. In the first "wet year" (when PacifiCorp releases or bypasses a substantial quantity of water that could have stored during the filling season) it is evident that the water stored in the Upper and Lower Reservoirs had no effect on Bear Lake elevations. In essence, the "hole" has been filled, and the only remaining physical effect of the Project on lake elevations will be the immeasurably small Bear Lake level effect of evaporative loss (which calculates to 0.003 inches).

Although the impacts on elevation are modest, even small changes in Bear Lake elevations could affect irrigation water delivery obligations to PacifiCorp's contractees and the ability of Wyoming to store water upstream of Stewart Dam.

Accordingly, PacifiCorp will accept a "Bear Lake elevation adjustment condition." This would include a temporary[64] upward adjustment to the estimated elevation of Bear Lake to reflect the effect of the initial fill.[65] This accounting adjustment would be made for purposes of calculating the irrigation delivery obligation set out in Exhibit A of the Amended Bear Lake Settlement (reproduced in Attachment W beginning on page 227), or for any other purpose deemed appropriate by the Department.[66]

In addition to these physical effects on Bear Lake elevation, there is another reason that an elevation adjustment may be appropriate. The irrigation delivery amounts in the Bear Lake Settlement Agreements are premised on the principle that irrigation deliveries will increase as more water is stored in Bear Lake Reservoir. Because the surcharge[67] component of the Project is currently available to meet contract obligations (but will not be reflected in Bear Lake elevations), it may be appropriate for the Bear Lake elevation adjustment condition to include a permanent adjustment of 0.23 feet for the 16,053 AF of surcharge storage. (See footnote 60 on page 52.)

To be clear, this proposed permanent adjustment is not based on the physical effect of the surcharge volume on Bear Lake elevation (which would disappear after the first "wet" year). Rather, this permanent accounting adjustment would reflect the fact that the surcharge water would be available to irrigators if needed to meet contract

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[64] As discussed, the physical effect of the initial fill on Bear Lake elevation will end when a "wet year" fills the "hole" caused by the initial fill. The effect of the initial fill of the Upper Reservoir dead pool will be mitigated under the Mitigation Plan, resulting in less water being released from Bear Lake and thereby eliminating the elevation impact as to that portion of the initial fill once the mitigation is completed (even before a "wet year").

[65] The proposed adjustment is similar conceptually to the Bear Lake Reservoir Equivalent Elevation established by the Amended Compact. This is the elevation Bear Lake would attain if all then-present water volume in Mud Lake were moved into Bear Lake. This is used to determine if upstream storage is restricted (when the equivalent elevation is below 5,911.0).

[66] In theory, the adjustment condition could also include a permanent adjustment for the 0.0003 foot impact of evaporative loss. Doing so would serve no practical purpose, however. A change in lake level that small cannot be measured, and thus could have no impact on contract obligations.

[67] No such adjustment is called for with respect to water stored below the surcharge area. That is water that would have been in Mud Lake and available to irrigators anyway. It is not "additional" water available to meet irrigation obligations that is not reflected in Bear Lake elevations.

obligations. Hence, it may be appropriate to treat it as part of the Bear Lake storage volume that drives the Exhibit A calculations for irrigation deliveries.

If this permanent adjustment of 0.23 feet is made, it would eliminate (and be redundant with) the temporary adjustment of 0.23 feet discussed above.

The elevation effects are summarized in Attachment H, Table 4 (Depletion and elevation impact summary) on page 107. There may be other ways of looking at this. The bottom line is that PacifiCorp is willing to work with the IDWR, UDWRi, and other governmental entities and stakeholders to reasonably address any perceived lake elevation effects.

XI. Summary of contracts, agreements, and other obligations bearing on Bear River System operations

A. No change to existing obligations or operations

PacifiCorp is a party to many contracts and other obligations concerning reservoir operations and water deliveries. These commitments and how they affect Bear River System operations are discussed below.

The Project will have no effect on PacifiCorp's duties under any of these important agreements. The Project will not change PacifiCorp's administration and distribution of Bear River System water.

Specifically, the approval of this transfer application and the operation of the Dry Canyon Project cannot and will not alter or impair PacifiCorp's duty and ability to deliver irrigation water and to meet its flood control obligations. In short, the Dry Canyon Project will allow an additional beneficial use of water under PacifiCorp's existing Decreed Rights without any reduction in downstream uses or impairment of obligations under contracts and agreements.

See discussion in section X (Bear Lake elevation considerations) on page 50 with respect to lake elevation accounting mechanisms that may be employed to assure that PacifiCorp's obligations are unimpaired by Project operations.

B. The move from Irrigation Reserve to higher PTEs

Before turning to the Three-State Agreements (discussed below), it is necessary to recognize other constraints and practices affecting the operation of the Bear River System.

1. New upstream storage

The Bear River Compacts grant two blocks of new storage upstream of Stewart Dam. The first block was for 36,500 AF.[68] The second block added an additional 74,500 AF.[69] These may be described as "super-priority" because the Compacts state that storage rights for the new construction shall "not be subordinate" to storage in Bear Lake. Original Compact, art. V, § A; Amended Compact, art. VI, § A, p. 8. Essentially, the Compacts made senior downstream rights subordinate to the new storage.

Both blocks of new storage were accompanied by provisions designed to mitigate or limit the adverse effect of the new storage on downstream irrigators who rely on Bear Lake Reservoir storage water. The Irrigation Reserve (discussed below) was employed to mitigate the first block. The second block is subject to an Upstream Storage Restriction whereby water may not be diverted to storage under the second block when the elevation of Bear Lake drops below 5,911 feet.

Although both provisions responded to the same concern (impacts to downstream irrigation), the two restrictions operate in entirely different ways.

The Irrigation Reserve is a limit on PacifiCorp's authority to release water from Bear Lake Reservoir solely for hydropower purposes. It has no bearing on how much Bear River water may be diverted to storage by others under the so-called first or second blocks of new storage. The Upstream Storage Restriction, in contrast, is a limit on when others may divert water to storage under the second block.

The Irrigation Reserve is discussed in more detail below, because it is the precursor to PTEs, which drive reservoir operations today. Note, however, that the Irrigation Reserve is a formal Compact-based requirement, while the PTE is a PacifiCorp discretionary elevation based on several factors such as enhanced Bear Lake storage and flood control considerations.

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[68] The first block, dating to the Original Compact, authorizes construction of up to 35,500 AF of additional storage on Bear River above Stewart Dam for use in Utah and Wyoming, plus 1,000 AF of new storage on Thomas Fork for use in Idaho, for a total of 36,500 AF of new storage. Original Compact, art. V, § A; Amended Compact, art. VI, § A, p. 8.

[69] The second block granted Wyoming and Utah another 70,000 AF, to be divided equally, and granted Idaho an additional 4,500 AF (to be stored in either Idaho or Wyoming for Idaho's use). The second block was added by the Amended Compact, art. VI, § B, pp. 8-9.

2. Irrigation Reserve

Note:

The Irrigation Reserve in relation to historical lake elevations is depicted in a graph prepared by the Bear River Commission, reproduced in Attachment J (Historical Bear Lake elevations from 1915 to 2019) on page 113. The Irrigation Reserve is shown in the context of other key lake elevations in Attachment I, Table 5 (Bear Lake elevations) on page 109.

As noted above, new upstream super-priority storage would reduce storage in Bear Lake. To mitigate this effect, both the Original Compact, art. V, ¶ B and Amended Compact, art. VI, § D, p. 9 included what is known as the Irrigation Reserve. Simulation studies estimated that if the elevation of Bear Lake did not go below 5,914.70 feet, enough water could be provided to downstream irrigators to assure a supply equal to that provided during a critical five-year period (1931-1935) even with the new upstream storage. To improve the chances of maintaining this lake level, the Irrigation Reserve prohibits releases of water from Bear Lake solely for purposes of hydropower production when the lake is below the specified elevation.[70] Hydropower could still be generated when the lake is below the specified level, but only incidental to releases for consumptive purposes. Above this lake level, water may be released for any authorized purpose.

Although the Irrigation Reserve was intended to benefit irrigators, it does not accord to irrigators any right to store water in Bear Lake.

> The [Irrigation Reserve] provision does modify the basic storage right in the Dietrich Decree as it pertains to the release and use of stored water. The right of UP&L to divert Bear River water to storage in Bear Lake remains as decreed.

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[70] The Irrigation Reserve came in response to historical drawdowns on Bear Lake by PacifiCorp's predecessor:

> We should keep in mind that Bear River hydropower was then the lifeblood of UP&L, whose five hydropower plants below Bear Lake (115,000 kw) were generating an estimated 75 percent of its total power production as compared to less than 5 percent in 1990. Increased usage or depletion above Bear Lake was a matter of serious concern to UP&L representatives on the Negotiating Committee. Large quantities of water released from Bear Lake solely for power production in the 1924-1927 period lowered the Lake about 14 feet to approximately 5,909 elevation and set the stage for the Lake being depleted to zero usable content by November 1935.

History of Compact, p. 8.

> The Compact does not grant to irrigators the right to store water in the Lake because of the irrigation reserve.

History of Compact, p. 11 (reproduced in Attachment Z beginning on page 287).

The Compacts set the Irrigation Reserve starting at elevation 5,912.91 feet with incremental increases up to 5,914.70 based on increments of additional storage constructed above Stewart Dam. Original Compact, art. V, § B; Amended Compact, art. VI, § D, p. 9. In October 1970, 30,883 acre-feet of new storage had been constructed, bringing the Irrigation Reserve to 5,914.61 feet. History of Compact, p. 11. The Irrigation Reserve remains at that level today.

As explained below, the Irrigation Reserve is largely supplanted, as a practical matter, by PacifiCorp's PTEs today. Because the PTEs generally target a higher lake elevation, the Irrigation Reserve rarely comes into play. However, the Irrigation Reserve is a fixed regulatory floor which remains in effect.

3. PTEs

Note:

Low, normal, and high runoff year PTEs (as well as a potentially higher PTE) are depicted in the context of other key lake elevations in Attachment I, Table 5 (Bear Lake elevations) on page 109.

At the urging of stakeholders and the affected States, PacifiCorp has shifted from an operational regime based on maintenance of an Irrigation Reserve (as provided in the Bear River Compacts) to a storage regime driven by PacifiCorp's Target Elevations ("PTEs"). Compared to the Irrigation Reserve, the PTE approach is even more protective of irrigators served by PacifiCorp while providing enhanced recreational benefits in Bear Lake.

> Through experience with several droughts, PacifiCorp found that the Compact irrigation reserve did not adequately address evaporation on the lake and otherwise protect its ability to supply the irrigation contracts, so it established its own target irrigation reserve at approximately elevation 5918.00.

Explanatory Statement Concerning the Relicensing of the Bear River Hydroelectric Projects FERC Project Nos. 20, 472, and 2401 Caribou and Franklin Counties Idaho, p. 10 (Aug. 28, 2002) ("Relicensing Explanatory Statement").[71]

[71] In 1999, PacifiCorp filed with FERC applications for new licenses for the "Bear River Project," which was composed of Soda Springs (FERC No. 20), Grace/Cove (FERC No. 2401) and Oneida (FERC No. 472) ("Relicensing Proceedings"). An extensive number of federal,

Each year, PacifiCorp selects a PTE, which will become the target elevation of Bear Lake for the upcoming March 31. The PTE is typically higher than the elevation reflected in the Irrigation Reserve. In other words, PacifiCorp operates Bear Lake to store more water, for the benefit of irrigation and recreational use, than is required under the Amended Compact's Irrigation Reserve.

> Since the mid-1960's, PacifiCorp has operated Bear Lake as if the irrigation reserve were at elevation 5,918 feet. This keeps the lake relatively high, which satisfies most recreational users and provides a good holdover storage for irrigators for use in times of drought. PacifiCorp lowers the lake to elevation 5,918 feet in the fall and winter, if the lake is above that elevation, to provide storage for flood control around the lake, as well as flood control along the Bear River below Bear Lake.

Bear River Commission, *Findings Concerning the Need for Compact Revision: A Report of the Bear River Commission* ("First 20-Year Review"), p. 14 (Nov. 18, 1997).

The PTE is a moving target until March 31. Beginning in January of each year, PacifiCorp reviews snowpack data, weather forecasts, and other relevant information to select a target elevation for March 31. The default is the "normal year" PTE of 5,918 feet, which is higher than the current Irrigation Reserve of 5,914.61 feet. As new data comes in after the beginning of the year, PacifiCorp adjusts this target repeatedly until March 31, aiming at all times to hit the adjusted PTE then in effect.

The PTE is not the highest elevation of the year. This is a pre-flood season target that balances the needs of irrigators against the need for flood protection. Hence, it includes a cushion allowing additional water to be stored. After March 31, the lake elevation typically will continue to rise either because it is safe to store more water for irrigation or as needed to capture flood water.

As discussed below, use of the PTEs was confirmed and approved in the Operations Agreement.

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state, tribal, and non-governmental organizations intervened. Ultimately, PacifiCorp entered into a settlement agreement with them, securing their support for relicensing. *Settlement Agreement Resolving the Relicensing of the Bear River Hydroelectric Projects* (Aug. 28, 2002) ("Relicensing Settlement"). The Relicensing Settlement is focused primarily on environmental requirements under the new license, and does not have any bearing on water rights or related operational constraints.

C. Three-State Agreements

PacifiCorp's operation of the Bear River System (including the Dry Canyon Project) is governed by the Three-State Agreements composed of the following:

- *Agreement Regarding the Bear River System* ("System Agreement") dated October 5, 1999.[72]
- *Operations Agreement for PacifiCorp's Bear River System* ("Operations Agreement") dated April 18, 2000.

Although referred to as the Three-State Agreements, the parties included not only the three States (Utah, Idaho, and Wyoming) but also PacifiCorp and ScottishPower.[73]

These agreements were driven by concerns raised by the States over the acquisition of PacifiCorp by ScottishPower.[74]

1. System Agreement (1999)

The System Agreement of 1999 was largely an "agreement to agree" to a subsequent Operations Agreement. System Agreement, § 2, p. 2. However, it also contained the following binding commitments (among others):

- The System Agreement recognized that "PacifiCorp's water rights are constrained by the historic practice of not making a delivery call for hydropower generation." System Agreement, § 1(a), p. 1.

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[72] The System Agreement was supplemented by the *Addendum Interpreting Agreement Regarding the Bear River System* ("System Addendum") dated December 7, 1999. The System Addendum did not change the substance of the System Agreement. In the System Addendum, the parties simply agreed that the 60-day deadline in the System Agreement to enter into an Operations Agreement would be extended. The only Three-State Agreements of consequence are the System Agreement and the Operations Agreement.

[73] ScottishPower PLC was a party to the System Agreement and the System Addendum. ScottishPower was not a signatory to the Operations Agreement in 2000. At the time of the System Agreement, ScottishPower was in the process of acquiring PacifiCorp. That acquisition was completed in 2001. ScottishPower sold PacifiCorp to an affiliate of Berkshire Hathaway in 2006.

[74] "The Parties recognize the need to assure the public utility commissions of the States of Idaho, Utah, and Wyoming and other public officials and water users of the three States that PacifiCorp's merger with ScottishPower will not affect the operations of the Bear River System or PacifiCorp's ownership or exercise of its Bear River water rights." System Agreement, Recital C, p. 1.

- The System Agreement recognized that "Bear Lake is operated, consistent with long-standing practice and applicable laws, primarily as a storage reservoir to satisfy contracts for existing irrigation uses and flood control needs in the three states, with the use of water for hydropower generation being incidental to the other purposes for which the water is being released." System Agreement, § 1(b), pp. 1-2.

The System Agreement also prohibited PacifiCorp from entering into a separate agreement with any of the States without approval of all three States. System Agreement, Recital D, p. 1; § 6, p. 2.

2. Operations Agreement (2000)

The Operations Agreement contains a number of provisions, most notably the four discussed below.

First, the Operations Agreement of 2000 mandated that PacifiCorp will continue to operate Bear Lake "primarily for Bear Lake Storage Water delivery . . . or for flood control, depending on [lake level], forecasted runoff, general water supply conditions, constraints of its contracts, its assessment of the hydrology and other conditions in the Bear River basin." Operation Agreement at ¶ 2.A, p. 3.

Second, the agreement recognized that PacifiCorp has the exclusive right to store water in Bear Lake up to the maximum elevation of 5923.65 feet.[75]

Third, the Operations Agreement recognized and approved a process by which PacifiCorp sets what are known as PacifiCorp's Target Elevations ("PTEs") (discussed above). The PTE, which varies from year to year depending on hydrologic conditions and operational concerns, is the elevation that is sought to be achieved, if possible, on March 31 of each year. The PTEs fall within this range (the wetter the year, the lower the PTE, in order to allow more space for flood control):

- As low as 5,916 feet during high runoff conditions.
- 5,918 during normal runoff.
- As high as 5,920 feet during low runoff.

Operations Agreement, ¶ 2(C), p. 3.

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[75] "PacifiCorp's water rights include the exclusive right to divert and store water in and release water from Bear Lake between elevations 5923.65 ft and 5902.00 ft . . . ." Operations Agreement, 2nd Whereas, p. 1. "From time to time, the elevation of Bear Lake may range from elevation 5902.00 ft to elevation 5923.65 ft. Nothing herein shall restrict PacifiCorp's right to store water in Bear Lake to elevation 5923.65 ft." Operations Agreement, ¶ 2(C)(iii), p. 4.

The Operations Agreement recognizes that setting the PTE is a judgment call. It does not lock PacifiCorp into particular PTEs. Nor does it affect or limit PacifiCorp's use of its water rights.[76]

Fourth, the Operations Agreement requires PacifiCorp to "consult with the States if it sees the need to deviate from the operation and practices outlined in this Agreement." Operations Agreement, ¶ 1(D), p. 2.

D. Bear Lake Settlement Agreements (1995 & 2004)

Note:

The annual estimated allocations to irrigators (associated with each lake level) set by the Amended Bear Lake Settlement are displayed in Attachment I, Table 5 (Bear Lake elevations) on page 109. This table also displays the PTEs and other lake levels described in the Operations Agreement, as well as other lake level information.

In the early 1990s, PacifiCorp sought and obtained federal Clean Water Act and Idaho Department of Lands permits for dredging Bear Lake in connection with its water supply and flood control obligations.[77] In 1995 a consortium of landowner, recreational, and environmental interests known collectively as the Bear Lake Group sued the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency challenging the federal permits. The lawsuit ended in 1995 with a settlement among PacifiCorp, the Bear Lake Group, and irrigation entities.[78] Bear Lake Settlement Agreement ("Original Bear

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[76] "The Parties do not intend by this Agreement to confirm or agree that any specific water management practice of PacifiCorp described, referred to, or implied in this Agreement, other than the limitations set forth in the October 5, 1999 Agreement [System Agreement], shall constitute a constraint or limitation on PacifiCorp's use of its water rights. PacifiCorp will consult with the States if it sees the need to deviate from the operation and practices outlined in this Agreement." Operations Agreement, ¶ 1(D), p. 2.

[77] The settlement documents do not identify the specific permits involved. The "backfile" for the 1993 Minimum Lake Level Water Right No. 11-7406 includes an application for a section 404 dredging permit dated November 17, 1993. The cover letter from UP&L stated: "This work will allow the Bear Lake level to be drawn down to an elevation of 5902." The backfile also contains encroachment permit No. L-11-S-131C issued to UP&L by the Idaho Department of Lands on April 16, 1993. It also identifies the purpose as providing "access water to elevation 5,902'."

[78] The parties to the Amended Bear Lake Settlement are (1) PacifiCorp, (2) a group labeled "Company Irrigators" (Last Chance Canal Company, Cub River Irrigation Company, West Cache Irrigation Company, Bear River Canal Company, and the Bear River Water Users Association) and (3) a group labeled "Bear Lake Group" (Bear Lake Watch, Inc., Emerald Beach, Inc., Bear Lake East, Inc., and Jim Kimball). There were no State or Federal participants. The parties to the Original Bear Lake Settlement were nearly the same. Other irrigators served by PacifiCorp, known as the "Small Irrigators," were represented by two unincorporated

Lake Settlement") (Apr. 4, 1995). The settlement was amended and replaced in 2004. Amended and Restated Bear Lake Settlement Agreement ("Amended Bear Lake Settlement") (July 2, 2004) (reproduced in Attachment W on page 227) (collectively, "Bear Lakes Settlements").[79]

Among other things, the Bear Lake Settlement Agreements created the Bear Lake Preservation Advisory Committee ("Advisory Committee"), which is charged with promoting cooperation, conservation, and efficient use of resources. Amended Bear Lake Settlement, ¶ 3, p. 3. The Advisory Committee is composed of representatives of Bear Lake Group (the plaintiffs), Company Irrigators, Small Irrigators, Bear River Commission, PacifiCorp, and the three States.[80] The States have, in fact, participated in Advisory Committee proceedings, which have proven effective in addressing and resolving stakeholder concerns.

PacifiCorp must consult with the Advisory Committee before making any changes to the allocations to irrigators. Amended Bear Lake Settlement, ¶ 2, p. 2.

The Bear Lake Settlement Agreements established a water level table (Exhibit A to both agreements) that sets the estimated annual allocation to irrigators based on the lake level. A copy of Exhibit A is on page 235 of Attachment W (Amended Bear Lake Settlement).[81]

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associations (the Idaho Pumpers Association and the Utah Pumpers Association) that were signatories to the original Bear Lake Settlement Agreement of 4/10/1995. They are not formal signatories to the Amended Bear Lake Settlement of 7/2/2002), but their rights and interests are set out in that agreement. Section 6 of the agreement also provided a mechanism for the Small Irrigators to become formal parties to the agreement. A copy of the agreement is set out in Attachment W beginning on page 210.

[79] The Original Bear Lake Settlement contained various terms related to the settlement of the lawsuit (e.g., an agreement not to dredge the lake in 1995) that were not included in the Amended Bear Lake Settlement. These provisions are not relevant to the ITAP or UCAP.

[80] The Company Irrigators are signatories to the Bear Lake Settlements but are not described in the settlement documents as parties to the Bear River Litigation, though they may have been intervenors. The Bear River Commission and the three States were not signatories to the Bear Lake Settlements (and presumably were not parties to the litigation), but they (as well as the Small Irrigators) were given representation on the Advisory Committee.

[81] Table A displays the 100% allocation as 230,000 AF (corresponding to level 5,914.70 feet). However, footnote 5(g) to Exhibit A pushes this higher, stating that 245,000 AF will be the maximum allocated above 5,914.70 feet. Footnote 5(g) also states: "However, under extreme conditions, and only when elevations are above 5914.7 feet, delivery of Bear Lake storage water to BRWUA may exceed 245,000 acre feet in order to satisfy the Company Irrigators' and Small Irrigators' Contracts."

The 2004 Amended Bear Lake Settlement followed the Three-State Agreements of 1999 and 2000. The Amended Bear Lake Settlement implemented the "Interstate Model" (an accounting model) resulting in system efficiency improvements and better accounting of the delivery of supplemental irrigation storage water to PacifiCorp contractees.[82] The primary purpose of the 2004 amendment was to adjust the lake level table (Exhibit A to the 1995 and 2004 agreements) to reflect these system improvements and supplemental deliveries. Under the 2004 agreement, the new lake level table was "approved . . . as established policy for the supplemental irrigation water delivery component of [PacifiCorp's] operation and management of Bear Lake." Amended Bear Lake Settlement, ¶ 1, p. 2.

The Amended Bear Lake Settlement preserves PacifiCorp's "authority and discretion to determine the 'Estimated Lake Elevation' [PTE]" pursuant to an established, negotiated, and approved "Irrigation Water Allocation and Lake Recovery Table." Amended Bear Lake Settlement, ¶ 2, p. 2.

E. Irrigation delivery contracts

PacifiCorp's Bear Lake irrigation water deliveries are based on individual irrigation contracts. The Amended Bear Lake Settlement establishes the total amount PacifiCorp delivers under the individual contracts each year. In other words, PacifiCorp's various irrigation contracts with large and small irrigators in the Bear River Valley in Idaho and Utah are the basis for PacifiCorp's obligation to deliver Bear Lake storage water.

None of PacifiCorp's obligations under those agreements will be or could be affected by approval of this transfer application. Those contracts are protected not only by the law of contract, but also by further commitments made in the Operations Agreement and the Amended Bear Lake Settlement, as discussed above. Indeed, because the water proposed for additional use by the Dry Canyon Project (without enlarging the rights) remains under PacifiCorp's control, the Project poses no threat to any of the company's contract or Compact obligations.

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[82] "WHEREAS, as contemplated in the Original Settlement Agreement, the Parties have pursued with the states of Idaho, Utah, and Wyoming the concept and implementation of a single interstate model and modeling process for the administration and distribution of water in the Bear River System (the 'Interstate Model'), including the delivery of supplemental irrigation water out of Bear Lake allocated by PacifiCorp among [various irrigation contract holders]." Amended Bear Lake Settlement, Recital F, pp. 1-2.

XII. Whether any change or appropriation is required

A. Whether a change is required at all

As discussed in the sections below, the Department may determine that PacifiCorp's Bear Lake Reservoir Decreed Rights are sufficient to support the Dry Canyon Project without any transfer or new appropriation. If that is not the case, any additional authority required may be secured through this transfer application. In any event, due to the scope of its existing rights, no new appropriation is required.

The Decreed Rights are unusually broad in the scope of what they authorize. They contain built-in authorization for PacifiCorp to construct new hydroelectric facilities in or along Bear River and to expand the delivery to irrigation water to anywhere in the Bear River Valley. On a number of occasions during the century since the Decrees were issued, PacifiCorp and UP&L have constructed new hydropower plants and brought new land under irrigation without seeking a transfer or new appropriation. That is unusual, but so are the Decreed Rights.[83] The authority granted under the Decrees is unambiguously broad[84] and settled.[85]

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[83] The authorization to add new places of use is unusual, but not contrary to the prior appropriation doctrine. For example, municipal water rights have expanding places of use that require no transfer. The broadly described places of use in the Decrees are analogous to a large permissible place of use.

[84] There is nothing ambiguous in the Decrees as to the authority to add new hydropower facilities and bring new lands under irrigation. Nor is this surprising, given the circumstances of the day. The Decrees recognize and facilitate the unique opportunity to harness the power of the Bear River for the benefit of the entire region. Doing so is consistent with the core purpose of the prior appropriation doctrine, which was to develop the West. Indeed, the Decrees are the embodiment of the constitutional principle of maximum use of the water resource. (See footnote 9 on page 16.)

[85] Another core principle of western water law is the finality of decrees. This is true even when decrees describe practices that are "unique and sometimes contrary to general water distribution rules":

> Finality in water rights is essential. "A water right is tantamount to a real property right, and is legally protected as such." An agreement to change any of the definitional factors of a water right would be comparable to a change in the description of property. Additionally, pursuant to Idaho Code section 42–220, all rights that are decreed pass with conveyance of the land and therefore the land could be sold with the certainty that the water would be distributed as decreed. Further, these General Provisions describe common practices in the Big Lost which are unique and sometimes contrary to general water distribution rules.

As discussed below, no increase in authorized quantity is required (see section XII.B.2 on page 66). PacifiCorp believes that the Project entails no new points of diversion (see section XII.B.4 on page 70).

As for place of use, the descriptions of the places of use for each use authorized by the Decrees are very broad. Accordingly, the Decreed Rights can be read to authorize places of use for the Dry Canyon Project without any transfer (see section XII.B.3 on page 68).

In any event, out of respect for the States and in keeping with its commitment to transparency and open dialog, PacifiCorp has submitted to the jurisdiction of IDWR and UDWRi by filing the ITAP and UCAP. Doing so will allow those agencies to evaluate whether they believe any change or appropriation is required.[86] Naturally, PacifiCorp reserves the right to challenge any jurisdictional or other agency determination.

B. If any new authorization for the Project is required, it may be obtained through a transfer of the Decreed Rights (without a new appropriation).

1. The right to transfer is a property right.

Under Idaho law, any of four elements of a water right (point of diversion, place of use, period of use, or nature of use) may be changed through a transfer proceeding.[87] If the statutory conditions can be met, a water user is entitled, as a matter of law, to transfer an existing water right.[88] This is a property right.

State v. Nelson, 131 Idaho 12, 16, 951 P.2d 943, 947 (1977) (emphasis added). See also, Idaho Code § 42-1420 ("Binding effect of decree").

[86] Even if no transfer is required, it may be appropriate for IDWR to process the application simply to confirm and resolve any question as to the authority of PacifiCorp to undertake the Project consistent with applicable law. PacifiCorp notes that employing an application for transfer even when there is no change in an element of the water right is consistent with IDWR's guidance: *Transfer Processing Policies & Procedures, Transfer Processing No. 24* (Dec. 21, 2009) ("Transfer Memo"). "If a proposed change has the potential to injure other rights or the potential to enlarge the right, even when there would be no change in any of the recorded elements of the right, an application for transfer should be filed to provide for evaluation of injury and enlargement issues before the change is made." *Transfer Memo*, p. 2.

[87] The elements that may not ordinarily be changed are the source, the priority date, and the quantity.

[88] "Any person, entitled to the use of water whether represented by license . . . or by decree of the court, who shall desire to change the point of diversion, place of use, period of use or nature of use of all or part of the water, under the right shall first make application to the department of water resources for approval of such change. . . . Upon receipt of such

2. No change in quantity is required because PacifiCorp's Decreed Rights already authorize it to divert and store virtually the entire flow of the Bear River.

As noted, a transfer may not increase the authorized quantity of a water right. An unmitigated increase in quantity would require a new appropriation.

But this is not an issue here, because PacifiCorp does not need an increase in quantity. Under the Bear Lake Reservoir Decreed Rights, PacifiCorp is authorized to divert all water flowing in the Bear River up to 5,500 cfs, subject only to senior rights.

> Subject to the prior rights of the various defendants, . . . the Utah Power & Light Company, has the right to divert at the Stewart Dam, as hereinbefore described, (and also in seasons of flood water through the "Dingle Inlet Canal". . .) and to impound and store in the Bear Lake Reservoir, consisting of Bear Lake and Mud or North Lake . . . all of the waters of Bear River to the extent of 5500 cubic feet per second of time, together with the waters naturally flowing into or arising in said lakes, all said waters to be stored in said Reservoir . . . .

Dietrich Main Narrative, Dietrich Decree § I(2) (first paragraph) (emphasis added), p. 7-8 (emphasis added) (Attachment Q on pages 153-154).

The decreed quantity (5,500 cfs) corresponds to the carrying capacity of the Rainbow and Dingle Inlet Canals, which, in turn, corresponds to virtually the entire flow of the Bear River. Under all normal conditions,[89] Stewart Dam physically diverts every drop of water in Bear River (but for a few cfs of seepage through the dam) and delivers it to Rainbow Canal. Accordingly, it is evident that the Dietrich and Kimball Decrees contemplate that PacifiCorp is entitled to all the flow of the river (other than extreme

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application it shall be the duty of the director of the department of water resources to examine same . . . . Upon the receipt of any protest, accompanied by the statutory filing fee as provided in section 42-221, Idaho Code, it shall be the duty of the director of the department of water resources to investigate the same and to conduct a hearing thereon. . . . The director of the department of water resources shall examine all the evidence and available information and shall approve the change in whole, or in part, or upon conditions, provided no other water rights are injured thereby, the change does not constitute an enlargement in use of the original right, [etc.]." Idaho Code § 42-222(1) (emphasis added).

[89] As discussed in section III.B.1 on page 23, the gates of Stewart Dam remain closed at all times, unless the river flow exceeds 5,000 cfs (the capacity of Rainbow Canal). This has only happened once in its history.

flood flows or water immediately returned to the river via the Outlet Canal to satisfy senior downstream rights).[90]

The decree's omission of a volume limit was deliberate. Another UP&L storage right listed in the same decree included a volume limit: the right for Cove Reservoir (now No. 13-0963 & 13-7998) is for 4,000 acre-feet. Dietrich Decree, § II(12)(b) at p. 19.

"The decree did not place a limit on the maximum storage which might be created in Bear Lake, or differentiate between power and irrigation-storage water interests." DOI Report, p. 7 (reproduced in Attachment Y on page 243). "Noted also is that the Dietrich Decree specifies no restrictions relative to lake operating levels, maximum or minimum water surface elevations, or total quantities to be stored." History of Compact, p. 5 (reproduced in Attachment Z on page 287).

If the Department were to infer a volume limit on the Bear Lake Reservoir Decreed Rights it could approach this in either of two ways. First, it could impose a limit based on the volume of water diverted if water was diverted at the authorized diversion rate for 365 days. Second, the limit could be based on the maximum physical volume that the Bear Lake Reservoir holds or can be made to hold, subject to fill and refill, under priority, as needed.[91]

The right to store up to an elevation of 5,923.65 feet is recognized expressly in the Three-State Agreements.[92] That equates to 1,421,000 AF of active storage space. Under

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[90] As noted in a detailed study by the Idaho Water Resource Board: "However, because of the Dietrich Decree and without additional court action (with an uncertain outcome) it appears that Utah Power and Light Co. have exclusive rights to Bear Lake." IWRB, Bear River Basin Investigation, (Feb. 1970), pp. 4-17.

[91] There is a reason the Decrees have no volume limit. The Bear Lake Reservoir is a multi-purpose, working, off-stream reservoir. For the last century, the Bear Lake Reservoir has filled and refilled under priority in order to maximize irrigation use, hydropower use, recreational and aesthetic values, and flood protection. Indeed, the ability of PacifiCorp to set higher PTEs that enhance irrigation deliveries—as contemplated and recognized in the Three-State Agreements (see section XI.C (Three-State Agreements) on page 59) and the Bear Lake Settlement Agreements (see section XI.B.3 (PTEs) on page 57 and section XI.D (Item 1.Attachment BXI.D) on page 61)—and its ability to achieve further irrigation enhancements in the future (see section II.E (Relationship of the Dry Canyon Project to other potential operational improvements in the Bear River System) on page 19) relies on PacifiCorp's historic authority (and practice) to refill under priority to achieve desired storage targets. This operating regime has benefited water users throughout the region for many decades.

[92] "PacifiCorp's water rights include the exclusive right to divert and store water in and release water from Bear Lake between elevations 5923.65 ft and 5902.00 ft." Operations Agreement, 2nd Whereas, p. 1 (Apr. 18, 2000). "Nothing herein shall restrict PacifiCorp's right to store water in Bear Lake to elevation 5923.65." *Id.*, § 2(C)(iii), p. 4. That elevation

normal year conditions, PacifiCorp sets its PTE at 5,918.0 feet, yielding 1,000,000 AF of active storage space. See Table 5 Attachment I on page 109. Thus, in a normal year, there is 421,000 AF of storage space to spare. That is more than sufficient to accommodate the initial fill of 19,203 AF (see Table 3, Reservoir dimensions and volumes on page 105) without any enlargement of the Decreed Rights.

In sum, PacifiCorp already has ample authority to divert and store all the water necessary for the Dry Canyon Project, and then some. No new appropriation is required.

3. The Decreed Rights may be read to include the places of use for the Project.

The Decreed Rights may be read to include the Upper Reservoir and the Dry Canyon Powerhouse.[93] This is because the spatial and temporal description of the places of use authorized by the Decrees is very broad.

- Irrigation is authorized anywhere in the Bear River Valley.[94]
- In one place, the Decrees authorize power generation in any existing or future power plant in or along Bear River. In another place, the Dietrich Decree authorizes new hydropower in "various points of diversion now existing, or which may hereafter be established."[95]

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corresponds to a volume of 1,421,000 acre-feet in active storage. See Table 5, Attachment I on page 109.

[93] The Decreed Rights must be read to include the Lower Reservoir because it is located within the footprint of its existing place of use in Mud Lake. For this reason, PacifiCorp does not view the Lower Reservoir as a new place of use. See Attachment L, Table 8 (and notes thereafter) beginning on page 118

[94] Irrigation: ". . . and for irrigation purposes in what is generally known as Bear River Valley in said states [Idaho and Utah]." Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187).

[95] Power: ". . . for the development of power or generating electric energy in any power plant which it may now have, or hereafter construct or acquire in or along Bear River, in the states of Idaho and Utah." Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (emphasis added) (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187) (emphasis added). See also Dietrich Main Narrative, Dietrich Decree § I(2) (end of first paragraph), pp. 7-8 (authorizing diversion and storage of "all waters of Bear River to the extent of 5500 cubic feet per second of time, together with the waters naturally flowing into or arising in said lakes, all said waters to be stored in said Reservoir, and to be thereafter released from said reservoir at the plaintiff's pleasure . . . thence conveyed through plaintiff's outlet canal . . . for use at various points of diversion now existing, or which may hereafter be established by the plaintiff for the generation of electric power, and for irrigation or other beneficial purposes

- Storage is authorized throughout Bear Lake Reservoir.[96] (The Project is intimately connected with and may be understood to be a part of Bear Lake Reservoir.)

- Finally, there is a catch-all for all such "other beneficial uses" "now existing, or which may hereafter be established" at any place "as the plaintiff may devote or dedicate said released stored waters."[97]

One could argue that the decree language authorizing power generation "in or along Bear River" or downstream of the Outlet Canal limits PacifiCorp to new power plants in those locations (absent a transfer). That interpretation, however, does not account for the circumstances and purpose of the Decrees. This Decree language reflects no more than a description of what forms of power generation were then thought possible. By all appearances, the Dietrich and Kimball Decrees are written to be as inclusive as possible—encompassing all conceivable current and future hydropower development within the valley. The Idaho and Utah Courts acted with clear recognition of the remarkable opportunity for UP&L to transform a barren landscape into thriving communities in three States.

This is underscored by the inclusion of the catch-all "other beneficial uses" which may be located anywhere PacifiCorp choses to "devote or dedicate said released stored waters." (See footnote 97 on page 69.)

To achieve these forward-looking additional uses, the Decrees recognize PacifiCorp's control of the stored water throughout the system. The Dietrich Decree, for example, confirms that the "natural channel" of the Bear River is treated "as though" it is "an artificial channel" operated by PacifiCorp. "[D]istribution" of the water while in the system is "as designated" by PacifiCorp. Both Decrees grant broad authority to develop

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. . . .") (emphasis added) (Attachment Q on pages 153-154).

[96] Storage: "Said water to be diverted from Bear River through what is known as the Rainbow and Dingle Inlet Canals, the headworks of which are located respectively in [township, section, and range] in Bear Lake County, Idaho, and to be carried into and stored in what is known as the Bear Lake Reservoir . . . ." Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187). See also Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), p. 7 (Attachment Q on page 153) (". . . and to impound and store in the Bear Lake Reservoir, consisting of Bear Lake and Mud or North Lake, in Rich County Utah, and Bear Lake County, Idaho . . . .").

[97] Other: Stored water is available "for use at various points of diversion now existing, or which may hereafter be established by the plaintiff for the generation of electric power, and for such irrigation or other beneficial purposes, recognized by law, as the plaintiff may devote or dedicate said released stored waters, by use, sale, rental, or otherwise." Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), p. 8 (emphasis added) (Attachment Q on page 154).

additional uses of that water while still in PacifiCorp's control. Dietrich Main Narrative, Dietrich Decree, § I(2), p. 8 (Attachment Q at page 154).

Accordingly, the Decrees should be read in that spirit in order to effectuate the evident intent of the two decreeing courts, which was to grant PacifiCorp's predecessor the broadest possible latitude in developing additional uses of the stored water so as to achieve over time the fullest beneficial use of the Bear River. Thus, arguably, no change in water rights (and certainly no new appropriation) is required for the Project.

4. No new point of diversion is required.

In section VIII.B.2 (Possible new points of diversion or rediversion) on page 42, PacifiCorp describes possible new points of diversion or rediversion associated with the Project. For reasons explained in that section, PacifiCorp takes the position that none of them constitute new points of diversion or rediversion as a matter of Idaho law and practice.

C. If a transfer is required, it does not constitute an enlargement of the Decreed Rights.

1. PacifiCorp is not increasing the quantity.

The Department's transfer guidance states that any increase in authorized quantity constitutes an impermissible enlargement. IDWR Administrator's Memorandum, Transfer Processing No. 24, p. 28 (Dec. 21, 2009) ("Transfer Memo").

As explained above (see section XII.B.2 on page 66), PacifiCorp seeks no increase in authorized quantity.

IDWR's transfer guidance continues:

> (1) Diversion Rate, Annual Diversion Volume, and Number of Acres Licensed or Decreed. The authorized diversion rate, annual diversion volume (ground water rights only and certain surface water rights), and number of acres authorized for irrigation (if applicable), as licensed or decreed for the water right, shall not be increased. If the annual diversion volume is not specifically stated on the license or decree for a ground water right, then the amount will be based on the most current standards adopted by the department unless the applicant can show a larger amount has been reasonably diverted and beneficially used.

Transfer Memo, p. 28 (emphasis and double emphasis added).

Use of the Decreed Rights for the Project complies with this guidance as well.

First, the discussion of annual diversion volume applies only to "certain surface water rights," i.e., those with an annual volume limit. The surface water rights involved here have no volume limit.

Second, even if the Department were to infer an annual volume limit not found in the Decrees, that limit can be no less 1,421,000 AF and would include the right to refill in priority (see section XII.B.2 on page 66 and, in particular, footnote 91 on page 67). This quantity is already recognized in the Operations Agreement (to which Idaho and Utah are signatories). Accordingly, under normal operating conditions, PacifiCorp has hundreds of thousands of acre-feet of additional storage available under its Decreed Rights. This is more than enough (by orders of magnitude) to accommodate the small amount of water required to fill the Project.

2. PacifiCorp is not increasing the extent or intensity of its beneficial use.

IDWR's guidance states that an increase in "the extent of beneficial use" may also constitute an enlargement "except for nonconsumptive water rights."[98] The hydropower use for the Dry Canyon Project is entirely nonconsumptive (except for the dead storage and evaporative loss that will be fully mitigated). Because the new use is nonconsumptive (or mitigated), there is no enlargement.

IDWR's transfer guidance contains two sections addressing new hydropower generation added to an existing right.

The first involves adding hydropower as a new use.[99] It is not applicable here,

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[98] IDWR's Transfer Memo states:

> For any application for transfer, the department must determine whether the proposed change will enlarge the use of water under the water right(s). Enlargement will occur if the total diversion rate, annual diversion volume, or extent of beneficial use (except for nonconsumptive water rights), exceeds the amounts or beneficial use authorized under the water right(s) prior to the proposed transfer.

IDWR Administrator's Memorandum, Transfer Processing No. 24, p. 28 (Dec. 21, 2009) ("Transfer Memo") (emphasis added).

[99] The guidance states:

> (2) Beneficial Use. An application for transfer proposing to change the place of use or nature of use for all or part of a water right or water rights, which change would not result in an equivalent reduction in beneficial use under the original right(s), will be presumed to enlarge the water right(s). For example, hydropower use cannot be added to a right used for irrigation, even though no additional water would be diverted for the hydropower use. The irrigation use, or part thereof, could be changed to

because hydropower is already an authorized use for the Decreed Rights.

The second reference to hydropower is found in a different part of the guidance (not the part dealing with enlargement). In a section under the heading "When a Transfer is not Required," it states that additional hydropower generation capacity may be added to an existing hydropower right (without a transfer) so long as no changes to any elements of the right are required.[100]

By negative implication, this sentence suggests that if a change in any element is required, a transfer is required. This is not a problem for two reasons.

First, as discussed in section XII.A on page 64, it may be that no change in any element is required. Second, even if an change is required as to place of use and/or point of diversion, the quoted guidance simply says that a transfer is required. It does not say that a transfer is prohibited because it is an enlargement.

In any event, PacifiCorp is not intensifying its use beyond what it is already authorized to do under the Decreed Rights. As discussed in section XII.B.3 on page 68, PacifiCorp is authorized to bring on new hydropower at will in or along Bear River and arguably anywhere in the basin. Adding new hydropower at the Project location does not increase the intensity of hydropower use any more than adding new hydropower downriver.

The Decrees already contemplate and authorize increasing hydropower use over time. Subject to prior rights, the Decrees grant PacifiCorp the right to divert "all of the waters of Bear River to the extent of 5500 cubic feet per second of time . . . for use at various points of diversion now existing, or which may hereafter be established by

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> hydropower use by reducing the irrigation use by an equivalent amount, or the new use could be provided without reducing the irrigation use by obtaining a new permit to appropriate water for hydropower use.

Transfer Memo, p. 28 (emphasis added).

[100] The guidance states:

> Intensified Use of Water. An application for transfer is not required to increase production under an authorized use of water, unless the proposed change would also result in a change to one or more of the elements of the water right(s) as licensed or decreed. For example, an application for transfer is not required to increase the number or volume of raceways in a fish propagation facility, increase the number of cows at a dairy, change irrigation to a more water consumptive crop, or increase the generating capacity of hydroelectric generators, so long as none of the elements of the associated water rights are changed.

Transfer Memo, p. 7 (emphasis added).

[PacifiCorp] for the generation of electric power . . . ." Dietrich Main Narrative, Dietrich Decree, § I(2), pp. 7-8 (Attachment Q on pages 153-154).

Only once in the last 107 years has the Bear exceeded the 5,000 cfs that PacifiCorp diverts at Stewart Dam. Because (1) PacifiCorp's diversion right is, for all intents and purposes, the entire river, (2) the Decrees authorize new hydropower to be brought on line at new locations, and (3) the Project, as mitigated, is nonconsumptive, this transfer does not fit the box for "intensified use of water" contemplated under the guidance.

It should be borne in mind that the Department's transfer guidance on enlargements does not establish hard and fast constraints. Rather, these are "factors [that] must be considered." Transfer Memo, p. 28. That guidance must be applied in the context of Bear Lake Reservoir Decreed Rights. These are no ordinary water rights. Both the words and the spirit of the Transfer Memo show that there is no enlargement here, given these considerations:

- There will be no increase in diversion rate. PacifiCorp is entitled to take the entire flow.
- Unlike other rights in the Dietrich and Kimball Decrees, the Bear Lake Reservoir Decreed Rights have no diversion volume limit.
- Even if the Department were to superimpose a volume limit, that limit would more than accommodate the amount of water required for the Project.
- The Project, as mitigated, is nonconsumptive. There will be no increased burden on the system or other water users.
- The application does not seek a new nature of use. Hydropower is already an authorized use.
- Unlike other water rights, the Decrees expressly contemplate and authorize intensified use of the right for hydropower purposes, including new hydropower projects. Thus, the transfer does not intensify use beyond what already is authorized.

In sum, PacifiCorp is within its rights to a transfer of its Bear Lake Reservoir Decreed Rights to support the Dry Canyon Project.

XIII. Jurisdiction under the Compact

A. Presumptive Idaho jurisdiction under the Amended Compact

Articles X and XI of the Amended Compact address which State has jurisdiction over the administration of water rights and applications for water rights within the Bear River Basin. The Amended Compact assigns jurisdiction to administer interstate water rights and to act on transfer and change applications to the State "in which the point of diversion is located."[101]

All four existing points of diversion for the Bear Lake Reservoir Decreed Rights (Stewart Dam, the intake for the Ream-Crocket Canal (formerly known as Dingle Inlet Canal), the Lifton Pump Station, and the Outlet Canal Headgates) are located in Idaho. See Attachment M, Table 9 on page 122.

The proposed Dry Canyon Project may or may not add additional points of diversion, depending on how IDWR views the matter. (See discussion in section VIII.B.2 on page 42.) In any event, all potential new points of diversion are in Idaho. Consequently, the plain language of the Amended Compact places jurisdiction for approval of the transfer in Idaho.

This conclusion is reinforced by the observation that both Idaho and Utah invoke the "most significant relationship" test to determine governing law in a choice of law problem.[102] In this instance, it seems clear that Idaho has the most significant relationship to the Project, because it will be located in Idaho and all hydropower production will occur in Idaho. The only effects felt outside of Idaho are (1) lands in Utah dried up pursuant to the Mitigation Plan and (2) minor change in Bear Lake water level resulting from the one-time initial fill and ongoing Upper Reservoir evaporative loss. Day-to-day operation of the closed-loop Project will have no effect on lake elevations of either Mud Lake or Bear Lake. Finally, there will be no change to or impact on any water user in Utah (or anywhere else).

B. Potential Utah jurisdiction or other administrative role

Owing to the location of the points of diversion, it appears that the Amended Compact confers jurisdiction on Idaho to address a change application for the Dry

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[101] "All interstate rights shall be administered by the State in which the point of diversion is located . . . ." Amended Compact, Art. X, § B. "Applications for appropriation, for change of point of diversion, place and nature of use, and for exchange of Bear River water shall be considered and acted upon in accordance with the law of the State in which the point of diversion is located . . . ." Amended Compact, Art. XI.

[102] The "most significant relationship" test determines governing law in a choice of law problem. *Barber v. State Farm*, 129 Idaho 677, 681 (1997); *American Nat. Fire Ins. Co. v. Farmers Ins. Exchange*, 927 P.2d 186, 188 (Utah 1996).

Canyon Project. That jurisdiction may be exclusive. Indeed, the avoidance of the dual jurisdiction and the risk of inconsistent determinations appears to be an important goal of the Compacts. (Prior to the Original Compact of 1958, it was necessary to pursue litigation in multiple states, as reflected in the Dietrich and Kimball Decrees. Fortunately, those decrees are consistent in their treatment of the Bear Lake Reservoir Decreed Rights.)

However, it is possible that jurisdiction does not lie exclusively in Idaho.[103] Accordingly, out of an abundance of caution and in deference to the States and the Bear River Commission, PacifiCorp has filed a corresponding Utah change application with UDWRi. Utah may then determine whether that application should be processed and, if so, how it should be sequenced and coordinated with the Idaho application.

One possible outcome is that UDWRi may accept the UCAP for filing, but defer action on it until IDWR acts on the ITAP. In the event IDWR approves the transfer application and a corresponding mitigation plan, UDWRi could then evaluate the UCAP knowing what mitigation and other conditions were imposed by Idaho that may require administration by the UDWRi, such as enforcing the dry-up of mitigation irrigated acres. See discussion of PacifiCorp's Mitigation Plan in section IX on page 47.

In the meantime, PacifiCorp welcomes and encourages Utah and its stakeholders to participate and engage fully in the processing of the ITAP.

Such coordinated engagement of both States would be consistent with the underlying policy of the Amended Compact, which is to simplify administration of multi-state water rights and to promote cooperation. This is reinforced by the 2009 policy statement of the Bear River Commission which contemplates that a state agency with

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[103] The four initial points of diversion associated with Bear Lake Reservoir Decreed Rights are all in Idaho. A large portion of the water diverted under those rights is released and later re-diverted from the Bear River in Utah at Cutler Reservoir, where it is used for power generation and delivered to the Bear River Canal Company for irrigation. Those Utah beneficial uses and places of use are both part of the Kimball and Dietrich Decrees and are being adjudicated in the Utah Bear River general determination proceedings. As discussed in section VIII.B.2(a) on page 42, Idaho generally does not deem the downstream removal of released water to be a "point of rediversion." In contrast, Utah does. Thus, Utah could view the Bear Lake Reservoir Decreed Rights as being diverted, in part, in Utah.

In addition, the proposed Mitigation Plan contemplates the dry-up of acres irrigated with water rights whose points of diversion and place of use are in Utah—thus likely requiring administration of those dried-up rights by UDWRi.

Finally, about half of the place of use for the storage of the Bear Lake Reservoir Decreed Rights are submerged sovereign lands in Utah. In sum, while the transfer and change will not impair any rights in Utah, it implicates rights and interests in Utah.

jurisdiction must give due consideration to the concerns of all affected States, including water right holders in other States.[104]

XIV. Filing fee

In contrast to Utah's fixed filing fee, Idaho filing fees are complex and ambiguous. Fees for transfer applications are established by Idaho Code § 42-221(O), based on the quantity of water transferred.

Arguably, no transfer is required and the fee should be zero, based on PacifiCorp's position that the Dietrich Decree authorizes construction of new hydroelectric facilities anywhere in the Bear River Valley. (See XII on page 64.) However, even if that is the case, PacifiCorp recognizes that there is value in securing IDWR's approval of its authority to rely on the Bear Lake Reservoir Decreed Rights, and its Mitigation Plan, to support the Dry Canyon Project. Accordingly, PacifiCorp proposes to pay a fee based on the total diversion rate authorized under the Bear River Reservoir Decreed Rights (6,000 cfs). This results in a fee of $35,220 based on the formula in Idaho Code § 42-221(O)(6).

This is substantially greater than if the fee were based on the amount of storage space associated with the Project. However, basing the fee on volume does not seem appropriate, given that the Dietrich Decree is stated solely in terms of flow rate, without any volume limit. Hence, PacifiCorp does not need and is not seeking a new appropriation. It seeks only a transfer of existing rights with no volume component, adding new places of use and/or points of diversion.

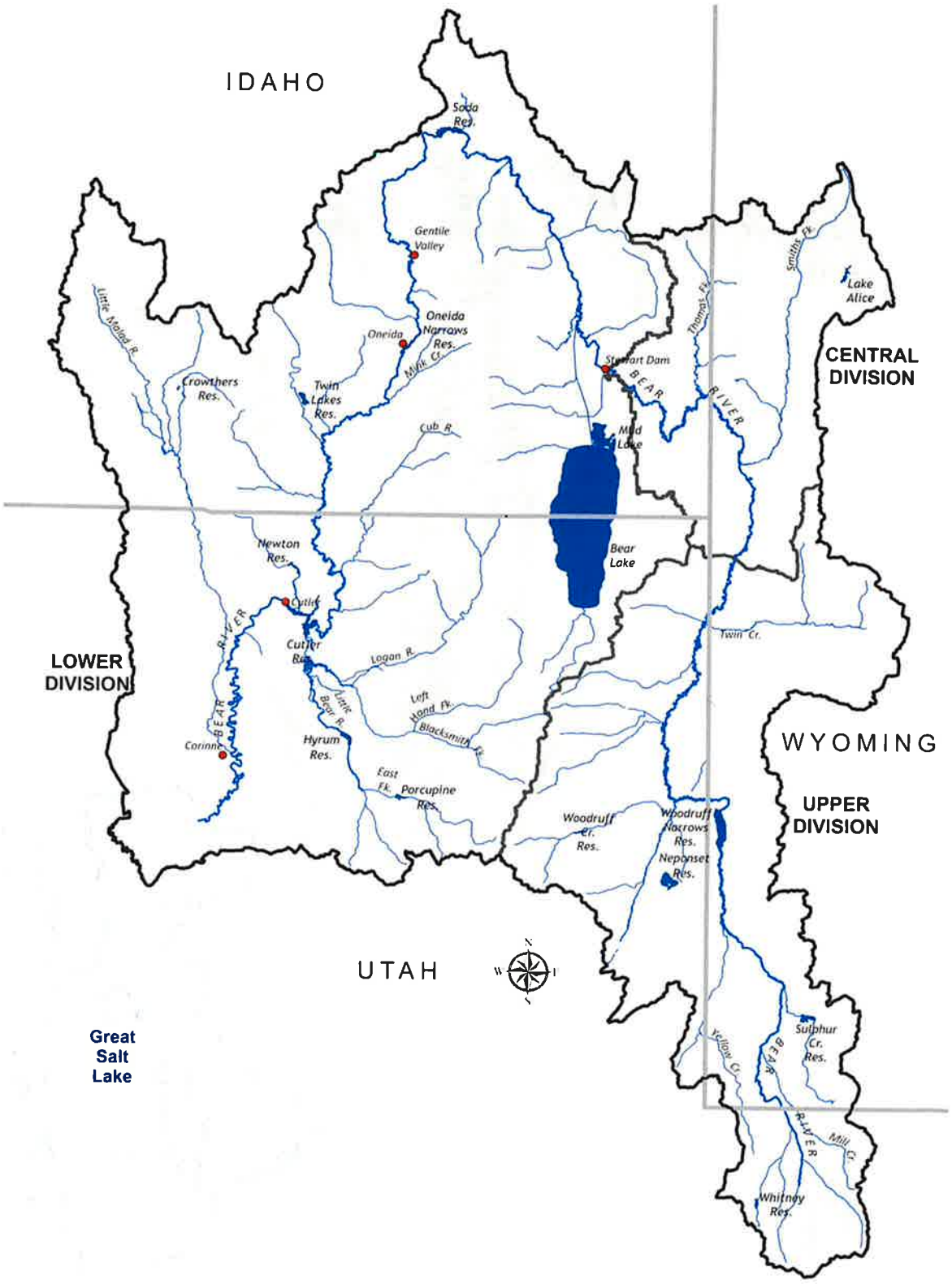
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[104] "The Commission believes that full consideration of all issues, regardless of their administrative lines, can and should be given by the individual State water right administering agency. The Commission finds that there is a strong spirit of cooperation between the States with a promise to abide by the provisions of the Compact. The Commission believes that water right holders in one State with concerns with proposals in another State should be given consideration by the State where the administrative action is to occur." *Position and Policy Concerning New Significant Water Right Filings and Development on the Bear River* ("BRC Position Paper"), p. 1. The Commission further believes "it has a responsibility to make certain that new water right changes, transfers and appropriations can be properly administered when there is a crossing of administrative lines and that further the Commission must ensure that provisions of the Compact can be adhered to through proper future administration." *Id.*, p. 2. A copy of the BRC Position Paper is set out in Attachment X on page 239.

Attachment C BASIN MAP

Note:

The map on the following page is reproduced from *Impacts on Bear River Storage under Alternative High-Runoff Management Operations*, issued by representatives of Idaho, Utah, PacifiCorp, and the University of Colorado on December 20, 2020.

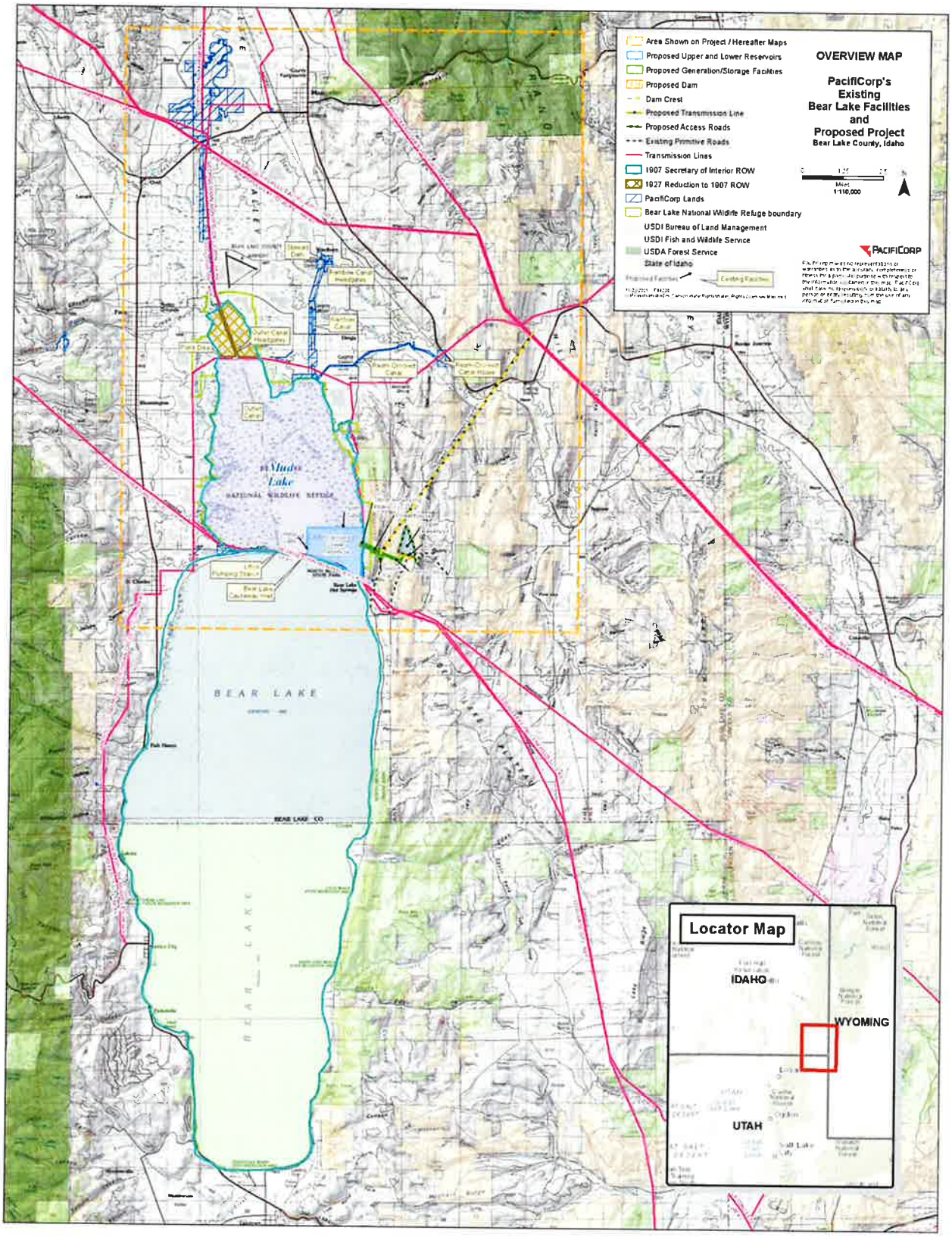

IDAHO
Soda Res.
Gentile Valley
Oneida
Oneida Narrows Res.
Mink Cr.
Little Malad R.
Crowthers Res.
Twin Lakes Res.
Cub R.
Stewart Dam
BEAR RIVER
Thomas Fk.
Smiths Fk.
Lake Alice
CENTRAL DIVISION
Mud Lake
Bear Lake
Newton Res.
Cutler
Cutler Res.
BEAR RIVER
Logan R.
Twin Cr.
LOWER DIVISION
Left Hand Fk.
Blacksmith Fk.
Little Bear R.
Hyrum Res.
Corinne
East Fk. Porcupine Res.
WYOMING
UPPER DIVISION
Woodruff Cr. Res.
Woodruff Narrows Res.
Neponset Res.
UTAH
N
W
E
S
Great Salt Lake
Yellow Cr.
BEAR RIVER
Sulphur Cr. Res.
Mill Cr.
Whitney Res.

Attachment D OVERVIEW MAP

Notes:

The Overview Map displays both the existing Bear Lake Facilities and the new Dry Canyon Project. The Dry Canyon Project facilities are shown in greater detail in the larger-scale Project/Hereafter Maps (Attachment E on page 81).

"Attachment #7a" (required by the Idaho Application Form, page 6) consists of the Overview Map, the Project/Hereafter Maps and the Pinpoint Maps.


Area Shown on Project / Hereafter Maps
Proposed Upper and Lower Reservoirs
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PacifiCorp Lands
Bear Lake National Wildlife Refuge boundary
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
OVERVIEW MAP
PacifiCorp's Existing Bear Lake Facilities and Proposed Project
Bear Lake County, Idaho
PACIFICORP
Mud Lake
BEAR LAKE
BEAR LAKE CO
Locator Map
IDAHO
WYOMING
UTAH

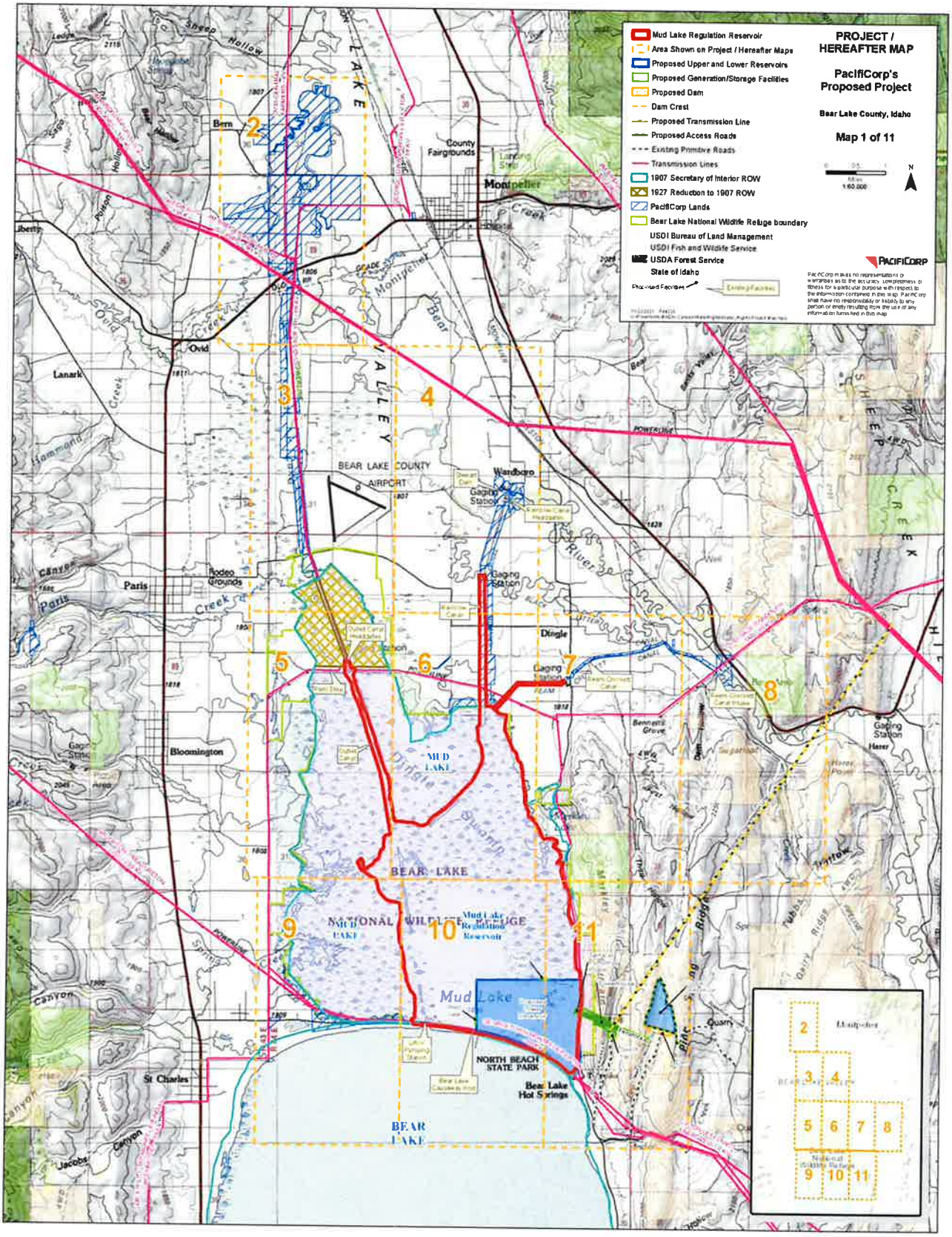
Attachment E PROJECT/HEREAFTER MAPS

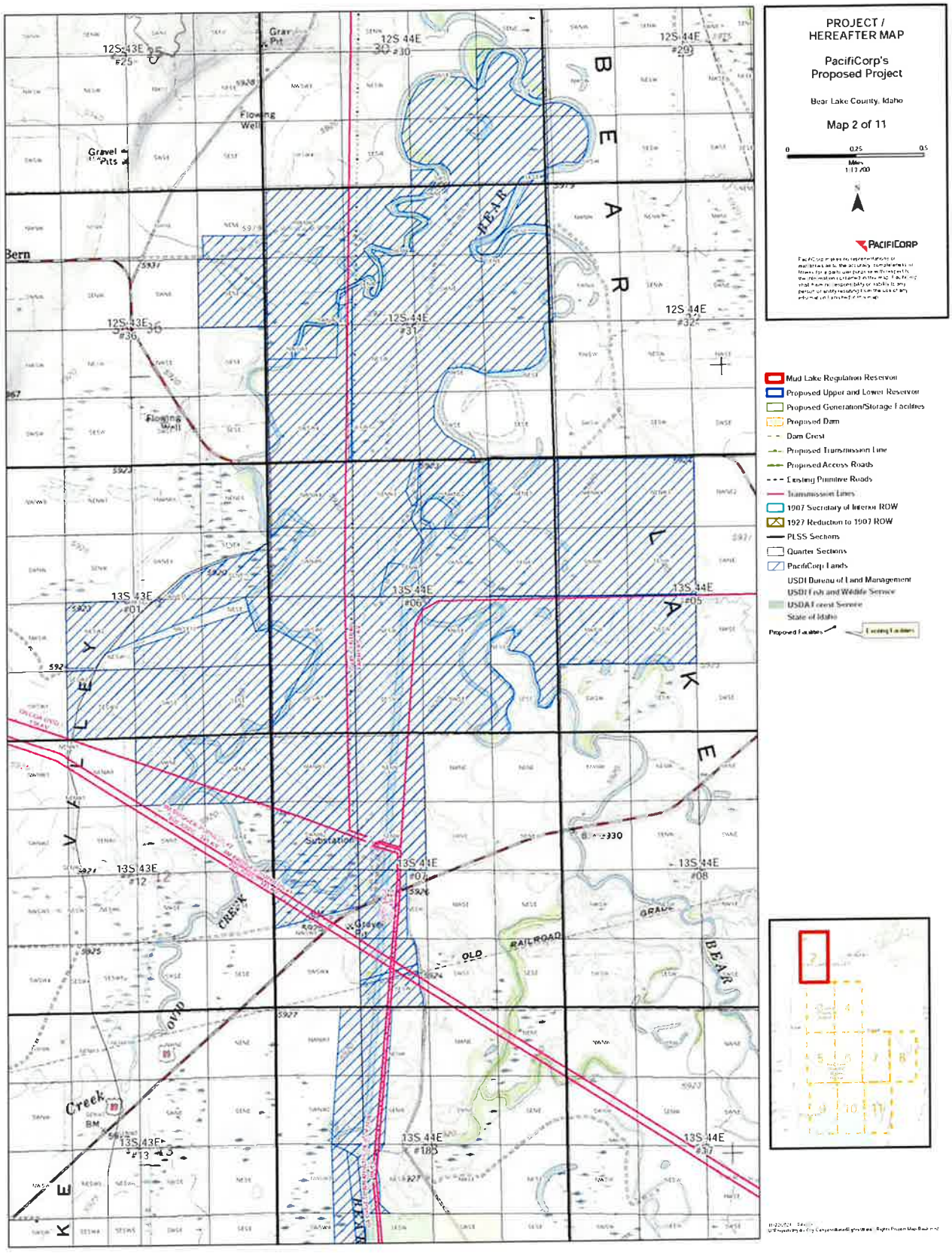
Notes:

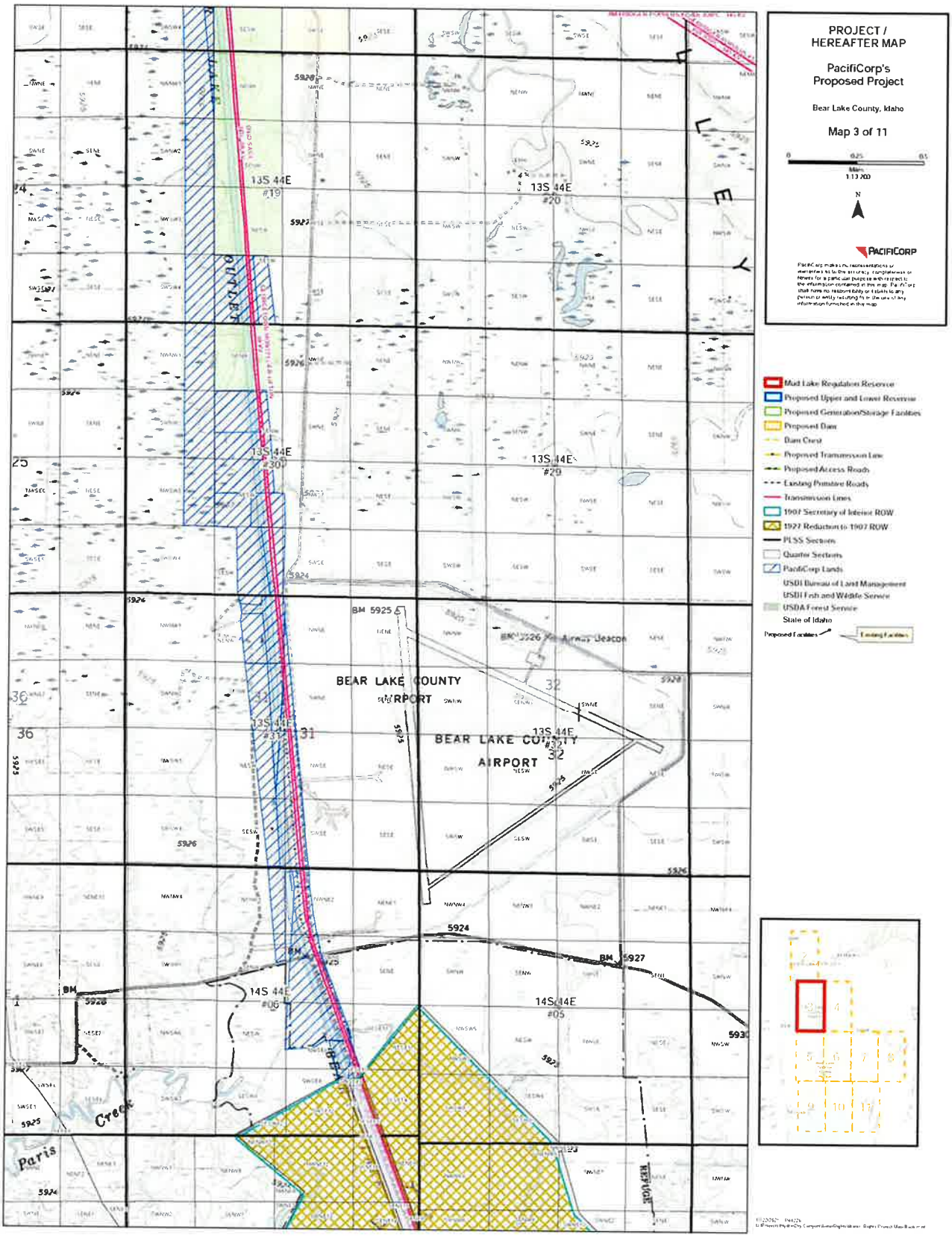
The Project/Hereafter Maps display the post-change facilities and property where the water will be diverted and used by the Dry Canyon Project, in relationship to land ownership and PLSS subdivisions. The first map shows then entire Project area. Maps 2 through 8 show each part of the first map in greater detail.

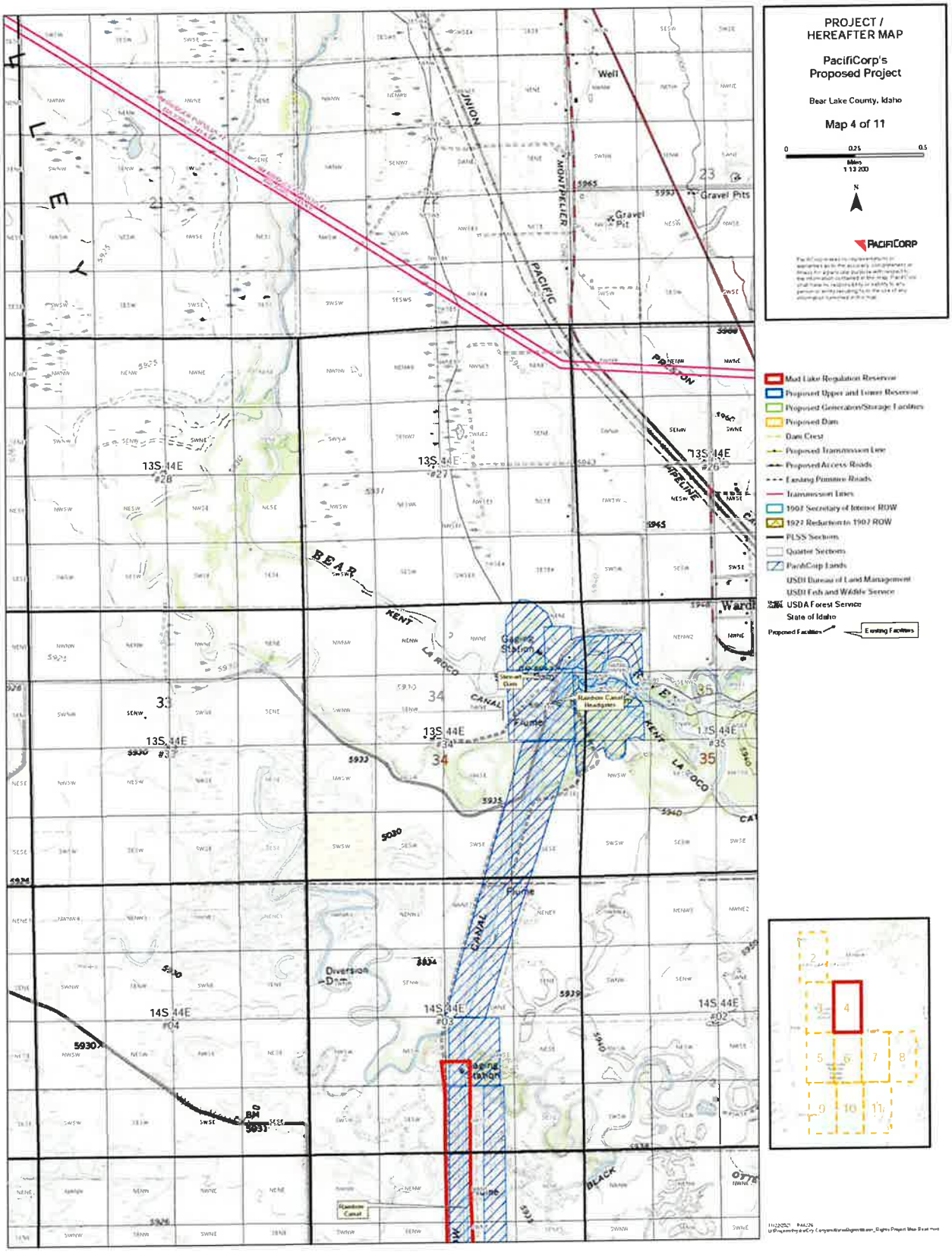
The Project/Hereafter Maps are limited to the new Project facilities. The Overview Map (Attachment D on page 79) is a smaller-scale map showing all Bear Lake Facilities including the new Project.

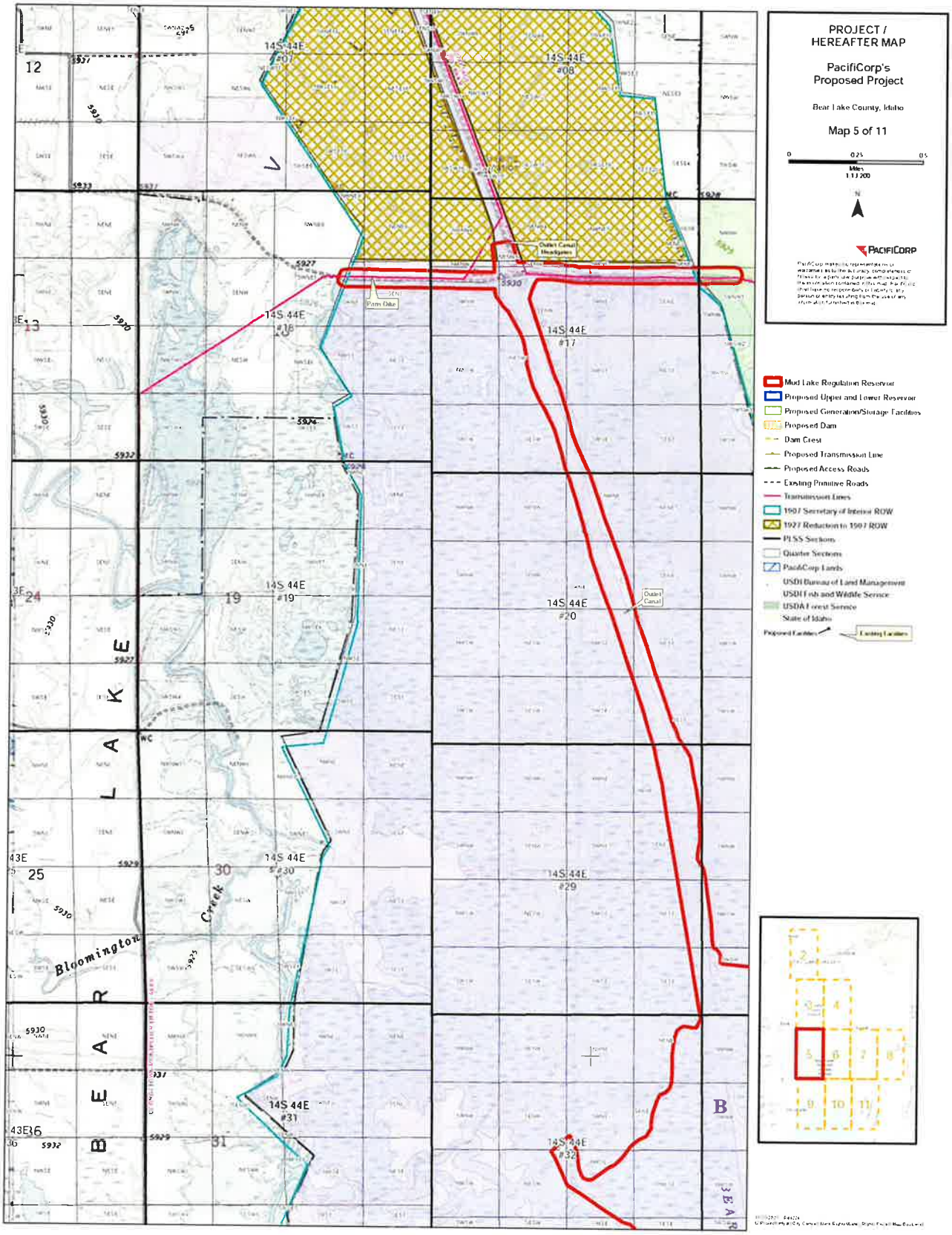
"Attachment #7a" (required by the Idaho Application Form, page 6) consists of the Overview Map, the Project/Hereafter Maps and the Pinpoint Maps.

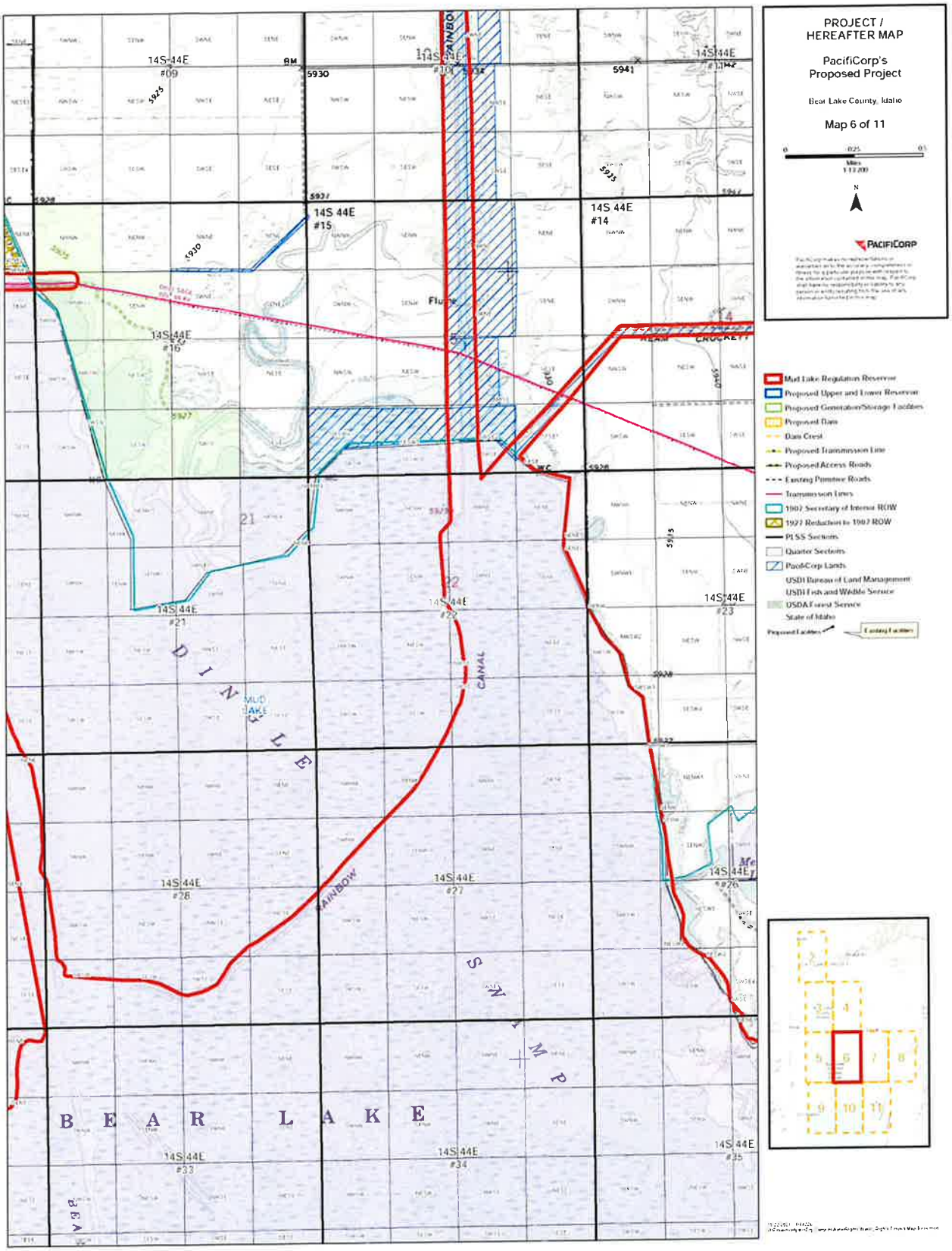

Mud Lake Regulation Reservoir
Area Shown on Project / Hereafter Maps
Proposed Upper and Lower Reservoirs
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PacifiCorp Lands
Bear Lake National Wildlife Refuge boundary
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 1 of 11
PACIFICORP
Montpelier
Bern
Ovid
Lanark
Paris
Bloomington
St Charles
Dingle
Wardboro
BEAR LAKE COUNTY AIRPORT
MUD LAKE
BEAR LAKE
Mud Lake
NORTH BEACH STATE PARK
Bear Lake Hot Springs
Mud Lake Regulation Reservoir
BEAR LAKE VALLEY
LAKE
CREEK
1
2
3
4
5
6
7
8
9
10
11

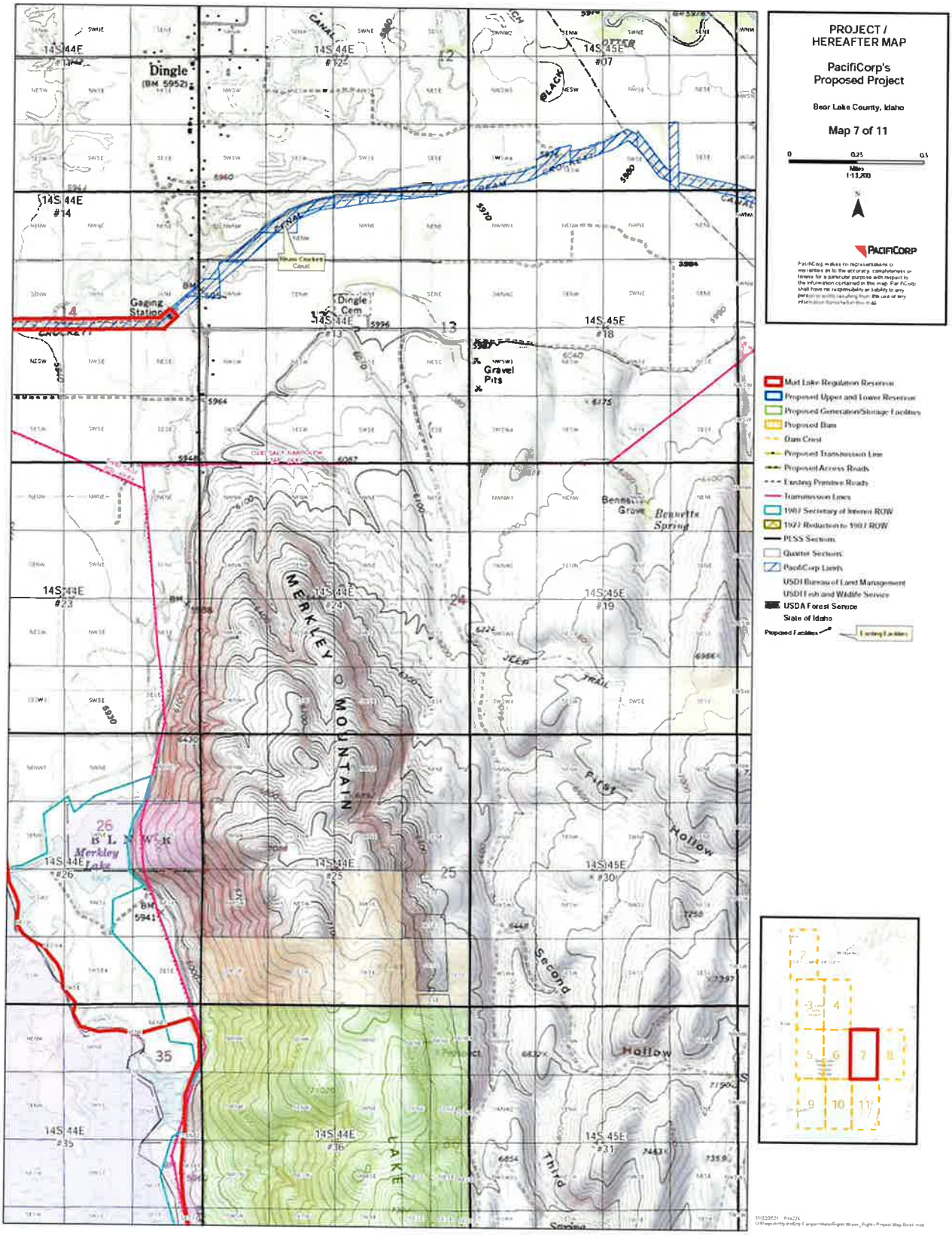

PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 2 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Proposed Facilities
Existing Facilities
12S 43E
12S 44E
13S 43E
13S 44E
BEAR
LAKE
Substation
Gravel Pit
Flowing Well
Creek
RAILROAD


PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 3 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Proposed Facilities
Existing Facilities
13S 44E #19
13S 44E #20
13S 44E #30
13S 44E #29
13S 44E #31
13S 44E #32
14S 44E #06
14S 44E #05
BEAR LAKE COUNTY AIRPORT
BEAR LAKE COUNTY AIRPORT
BM 5925
BM 5927
BM 5928
Paris Creek
5924
5926
5927
5928
5925

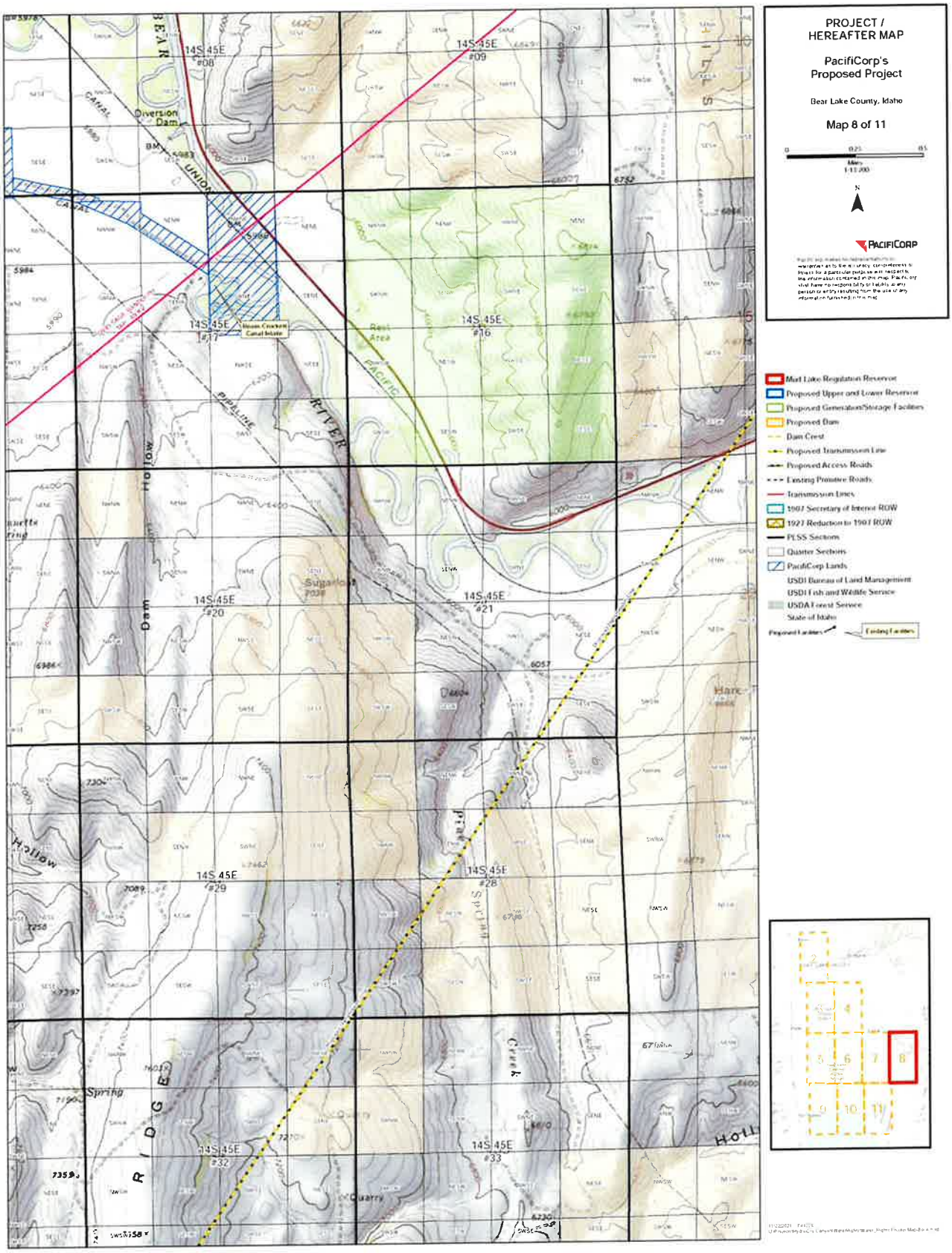

PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 4 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Proposed Facilities
Existing Facilities
13S 44E
14S 44E
Well
Gravel Pits
Gravel Pit
Diversion Dam
Fumes
Ward
Gardner Station
Gardner Canyon
Random Canal Headgates
Random Canal
Sterrett Dam
UNION
MONTPELIER
PACIFIC
PIPELINE
BEAR
KENT
LA ROCO
CANAL
BLACK
LINE

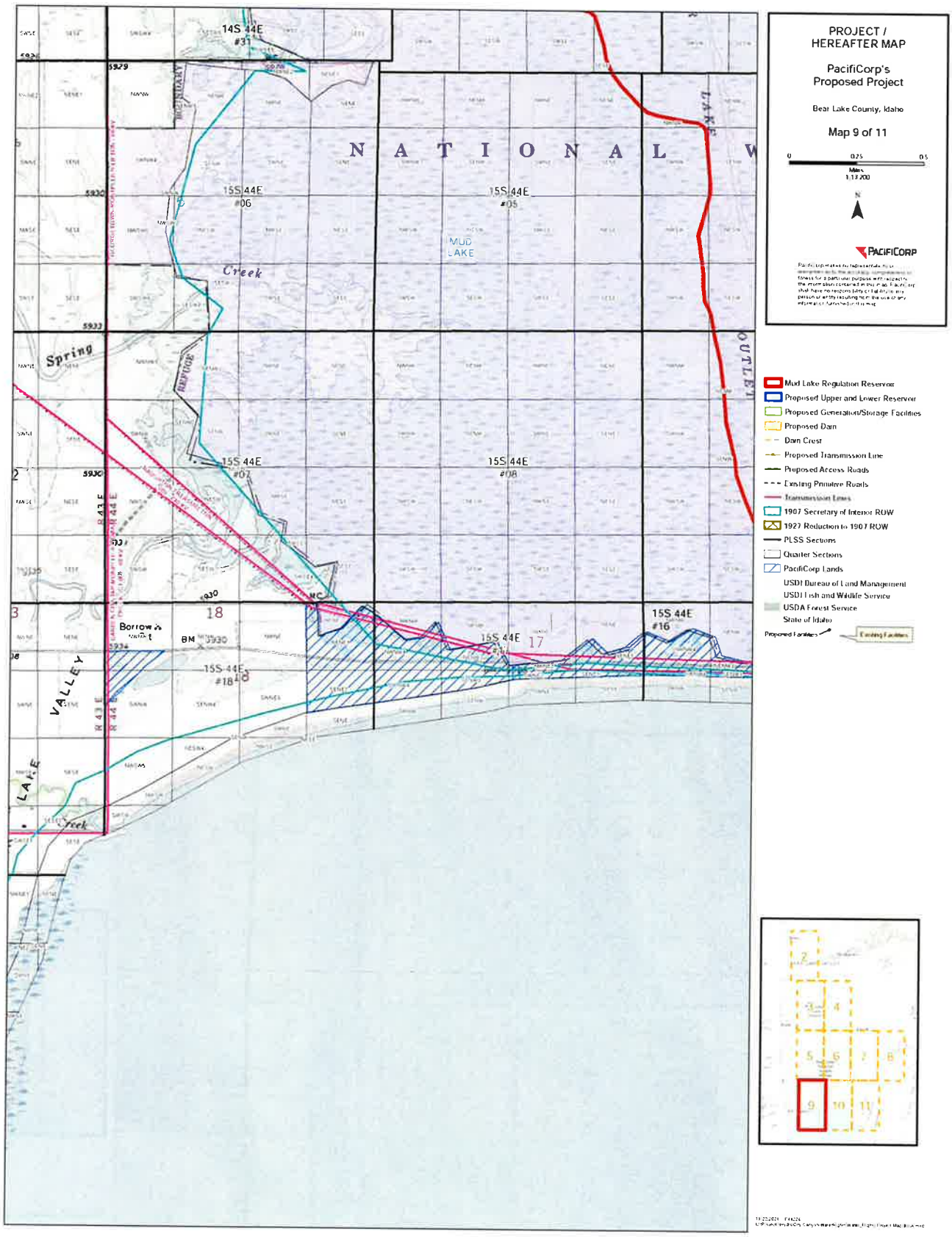

PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 5 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
14S 44E #16
14S 44E #17
14S 44E #18
14S 44E #19
14S 44E #20
14S 44E #29
14S 44E #30
14S 44E #31
14S 44E #32
Outlet Canal
Dam Dike
Bloomington Creek
MUD LAKE
BEAR

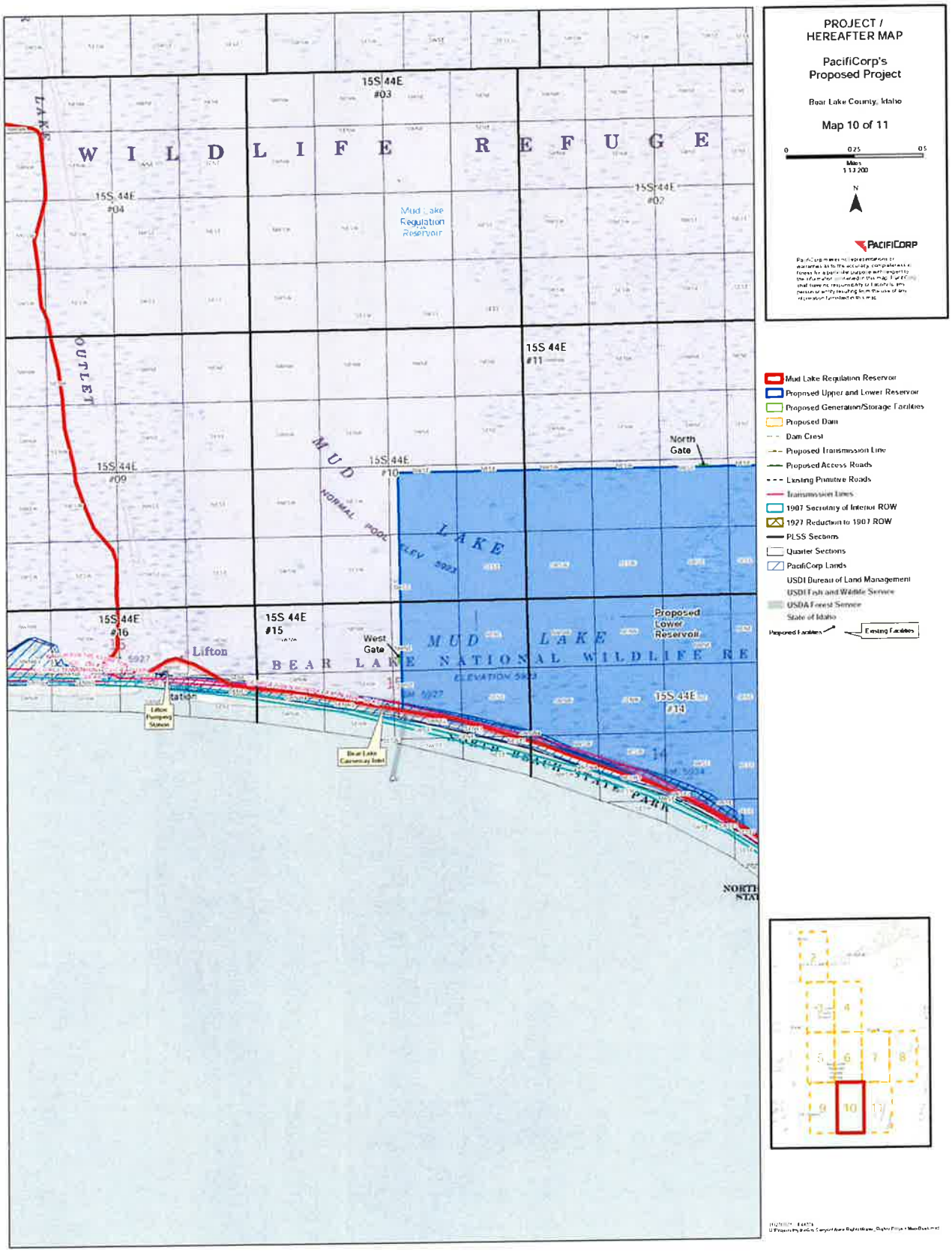

PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 6 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1902 Secretary of Interior ROW
1922 Reduction to 1902 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
14S 44E #09
14S 44E #15
14S 44E #14
14S 44E #16
14S 44E #21
14S 44E #22
14S 44E #23
14S 44E #28
14S 44E #27
14S 44E #26
14S 44E #33
14S 44E #34
14S 44E #35
DINGLE
MUD LAKE
CANAL
RAINBOW
SWAMP
BEAR LAKE

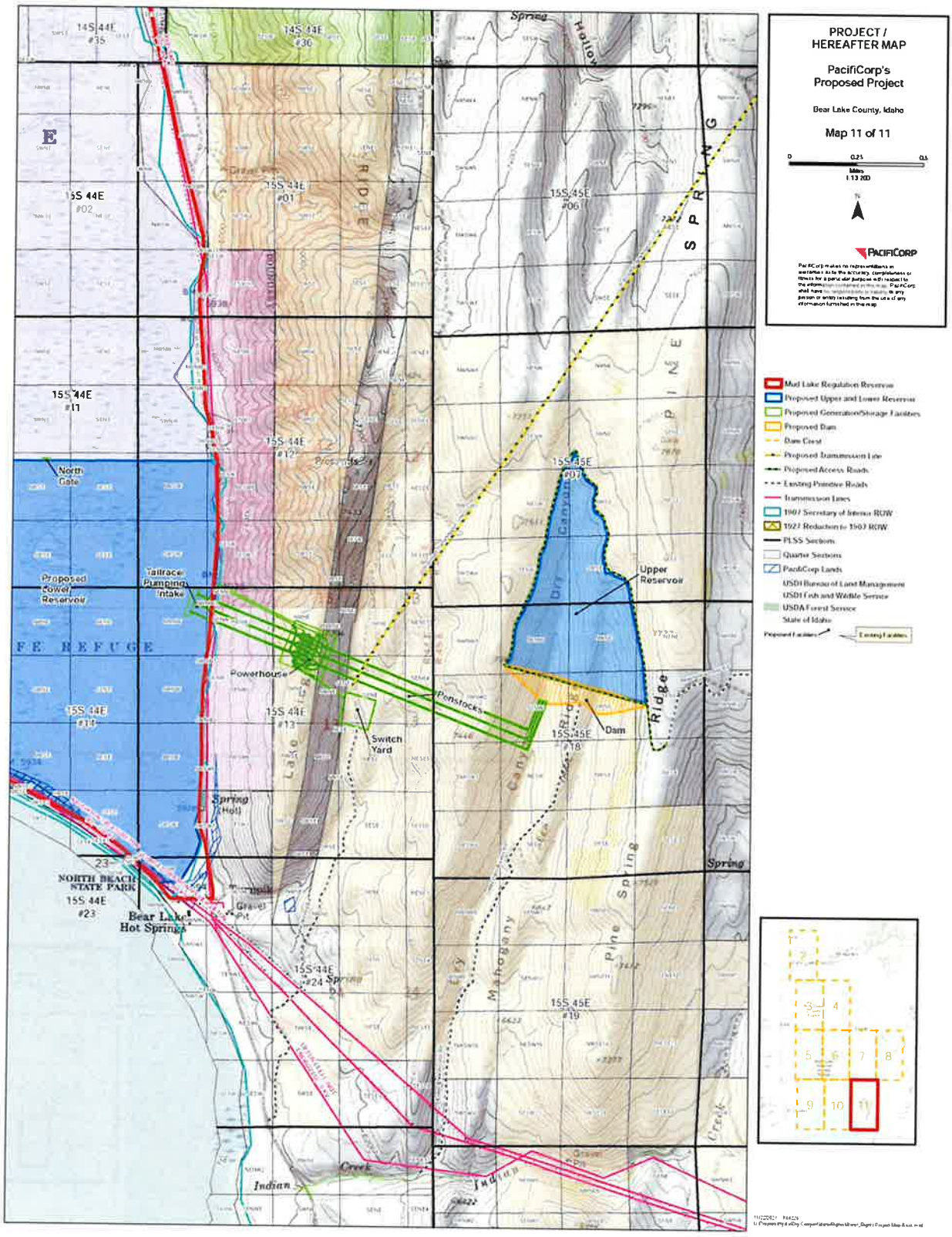

PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 7 of 11
PACIFICORP
Dingle
(BM 5952)
Gasoline Station
Dingle Cem
Gravel Pits
Bennetts Grave
Bennetts Spring
MERKLEY MOUNTAIN
Merkley Lake
LAKE
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1903 Secretary of Interior ROW
1927 Reduction to 1903 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Proposed Facilities
Existing Facilities

85695


PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 8 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Proposed Facilities
Existing Facilities
14S 45E #08
14S 45E #09
14S 45E #11
14S 45E #16
14S 45E #20
14S 45E #21
14S 45E #28
14S 45E #29
14S 45E #32
14S 45E #33
Diversion Dam
Hooper Crockett Canal Intake
Rest Area
Sugarloaf
Dam
Hollow
Spring
RIDGE
Quarry
Creek


PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 9 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
14S 44E #31
15S 44E #06
15S 44E #05
15S 44E #07
15S 44E #08
15S 44E #16
15S 44E #17
15S 44E #18
MUD LAKE
NATIONAL
Spring Creek
OUTLET
VALLEY
LAKE


PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 10 of 11
0
0.25
0.5
Miles
1:13,200
N
PACIFICORP
15S 44E #03
15S 44E #04
15S 44E #02
15S 44E #11
15S 44E #09
15S 44E #10
15S 44E #16
15S 44E #15
15S 44E #14
W I L D L I F E R E F U G E
Mud Lake Regulation Reservoir
OUTLET
MUD
LAKE
North Gate
West Gate
Lifton
Proposed Lower Reservoir
BEAR LAKE
NATIONAL WILDLIFE RE
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1927 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Proposed Facilities
Existing Facilities

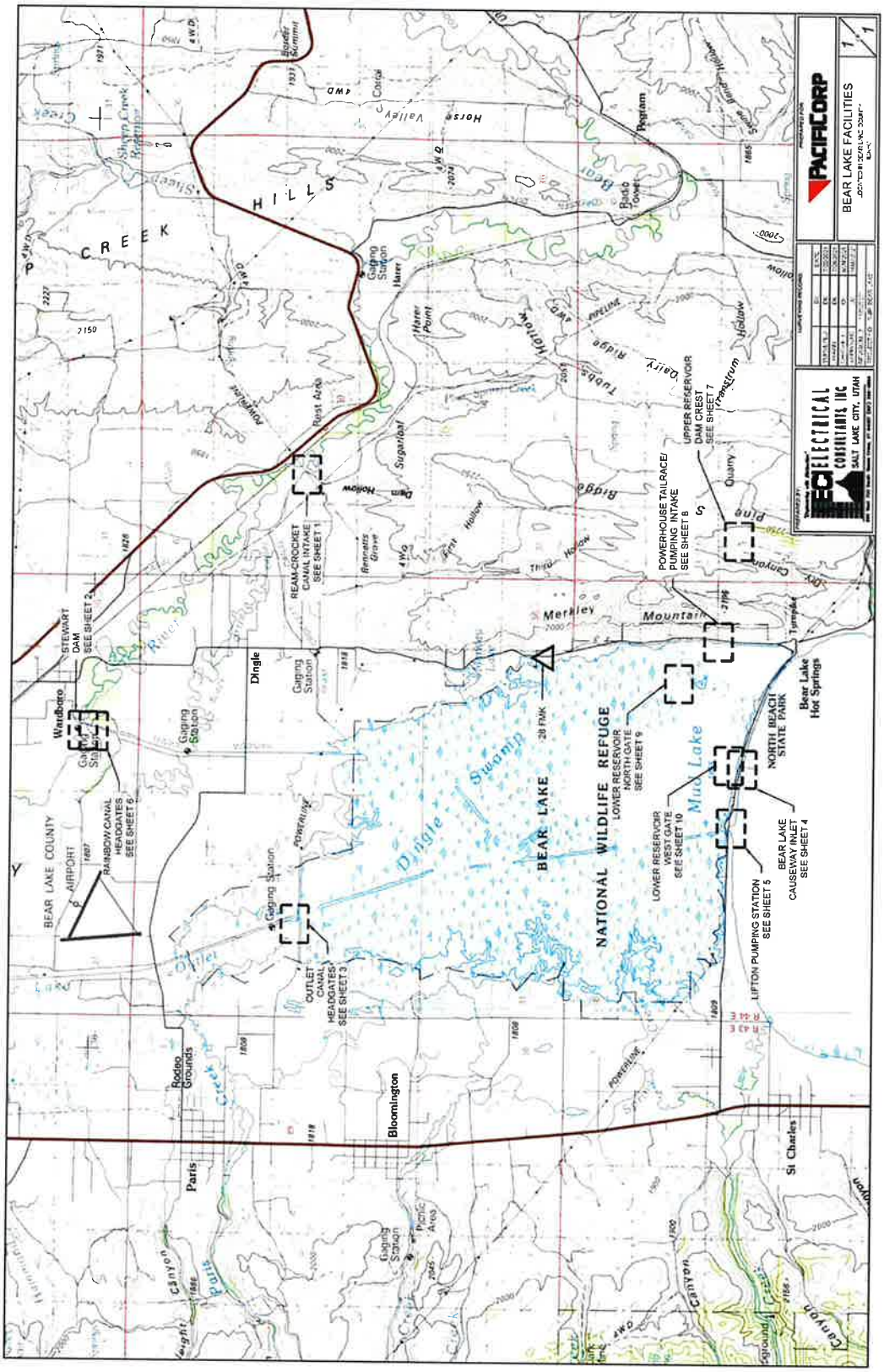

PROJECT / HEREAFTER MAP
PacifiCorp's Proposed Project
Bear Lake County, Idaho
Map 11 of 11
PACIFICORP
Mud Lake Regulation Reservoir
Proposed Upper and Lower Reservoir
Proposed Generation/Storage Facilities
Proposed Dam
Dam Crest
Proposed Transmission Line
Proposed Access Roads
Existing Primitive Roads
Transmission Lines
1907 Secretary of Interior ROW
1923 Reduction to 1907 ROW
PLSS Sections
Quarter Sections
PacifiCorp Lands
USDI Bureau of Land Management
USDI Fish and Wildlife Service
USDA Forest Service
State of Idaho
Upper Reservoir
Dam
Powerhouse
Penstocks
Switch Yard
Tailrace Pumping Intake
Proposed Lower Reservoir
North Gate
Bear Lake Hot Springs
NORTH BEACH STATE PARK
Indian Creek
Spring Hollow
Dry Canyon
Pine Spring
Mahogany Ridge
15S 44E #35
14S 44E #36
15S 44E #01
15S 44E #02
15S 44E #11
15S 44E #12
15S 44E #13
15S 44E #14
15S 44E #23
15S 44E #24
15S 45E #06
15S 45E #07
15S 45E #18
15S 45E #19

Attachment F PINPOINT MAPS

Notes:

The Pinpoint Maps display high resolution satellite views showing the location of the potential PODs and other key features associated with the Project. Each of these includes a location pinpoint description tied to a USGS Benchmark near Mud Lake identified as BM 28 FMK.

"Attachment #7a" (required by the Idaho Application Form, page 6) consists of the Overview Map, the Project/Hereafter Maps and the Pinpoint Maps.


PACIFICORP
BEAR LAKE FACILITIES
EC ELECTRICAL CONSULTANTS INC
SALT LAKE CITY, UTAH
BEAR LAKE
NATIONAL WILDLIFE REFUGE
Dingle Swamp
Mud Lake
Bear Lake Hot Springs
NORTH BEACH STATE PARK
Merkley Mountain
Dingle
Bloomington
Paris
St Charles
Wardboro
Rodeo Grounds
BEAR LAKE COUNTY AIRPORT
STEWART DAM SEE SHEET 2
REAM-CROCKET CANAL INTAKE SEE SHEET 1
RAINBOW CANAL HEADGATES SEE SHEET 6
OUTLET CANAL HEADGATES SEE SHEET 3
POWERHOUSE TAILRACE/ PUMPING INTAKE SEE SHEET 8
UPPER RESERVOIR DAM CREST SEE SHEET 7
LOWER RESERVOIR NORTH GATE SEE SHEET 9
LOWER RESERVOIR WEST GATE SEE SHEET 10
BEAR LAKE CAUSEWAY INLET SEE SHEET 4
LIFTON PUMPING STATION SEE SHEET 5
Gaging Station
Powerline
Pipeline
Tunnel
Quarry
Ranger Station
Radio Tower
Boulder Summit
Horse Valley
Sugarloaf
Tubbs Hollow
Dairy Ridge
Third Hollow
Fifth Hollow
Renrotts Grove
Rose Area
Dam Hollow
Powerline Hollow
Sharp Creek
Sheep Creek
Outlet
Lake
Canyon
Ridge
Hollow
Creek
HILLS

Ream-Crocket Canal Intake



REV: 0	DATE: 10/13/21	BY: DTM	CHK: AAA	APP: AAA

ELECTRICAL CONSULTANTS, INC
SALT LAKE CITY, UTAH
660 West 700 South Woods Cross, UT 84087 (801) 292-9654

REAM-CROCKET CANAL INTAKE
LOCATED IN SEC 17, T 14S, R 45E B.M.
BEAR LAKE COUNTY, IDAHO

SHEET: 1 OF10 | SCALE: 1" = 500'

STEWART DAM



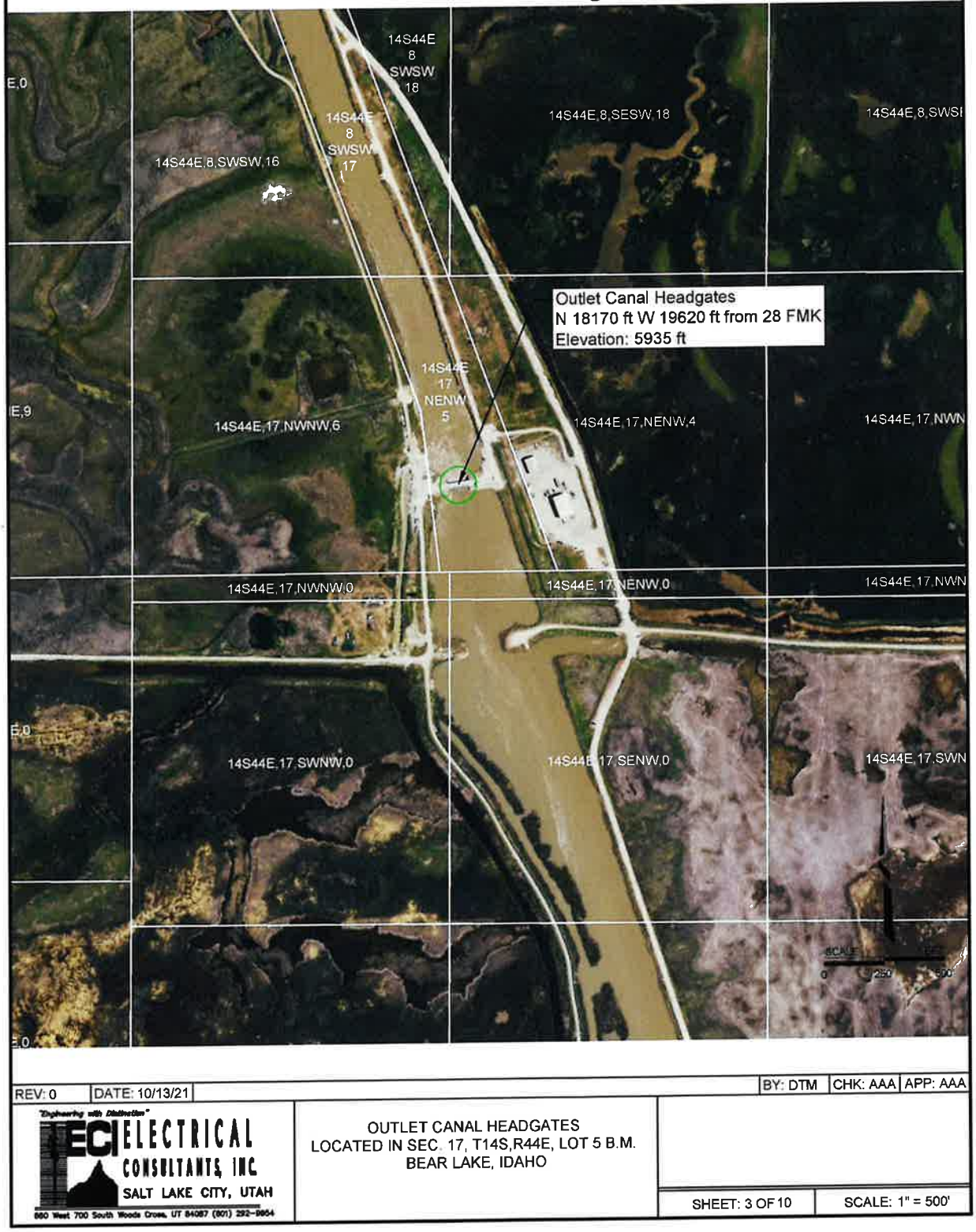
REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC
SALT LAKE CITY, UTAH
860 West 700 South Woods Cross, UT 84087 (801) 292-9954

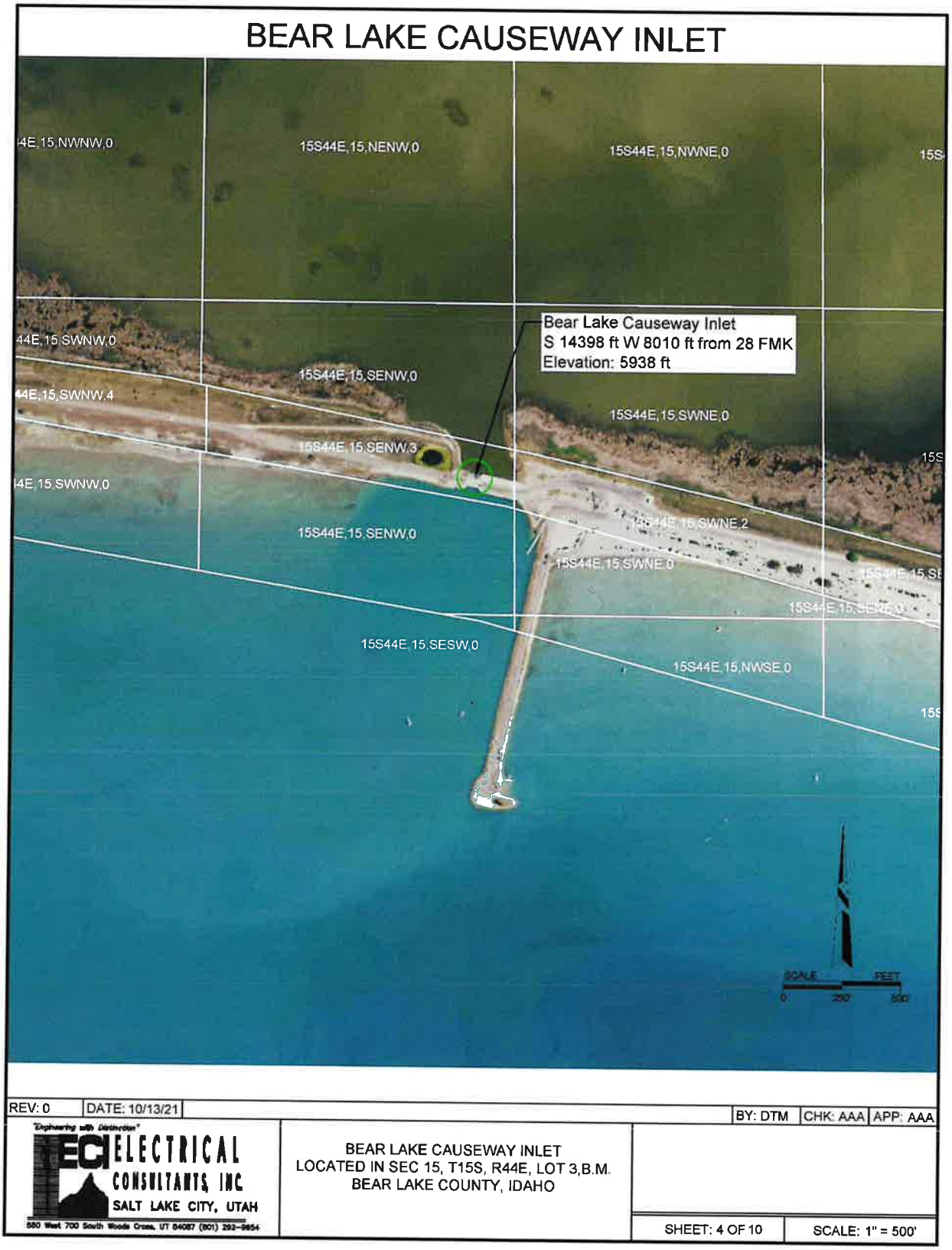
STEWART DAM
LOCATED IN SEC 34, T 13S, R 44E, B.M.
BEAR LAKE COUNTY, IDAHO

SHEET: 2 OF 10 | SCALE: 1" = 500'

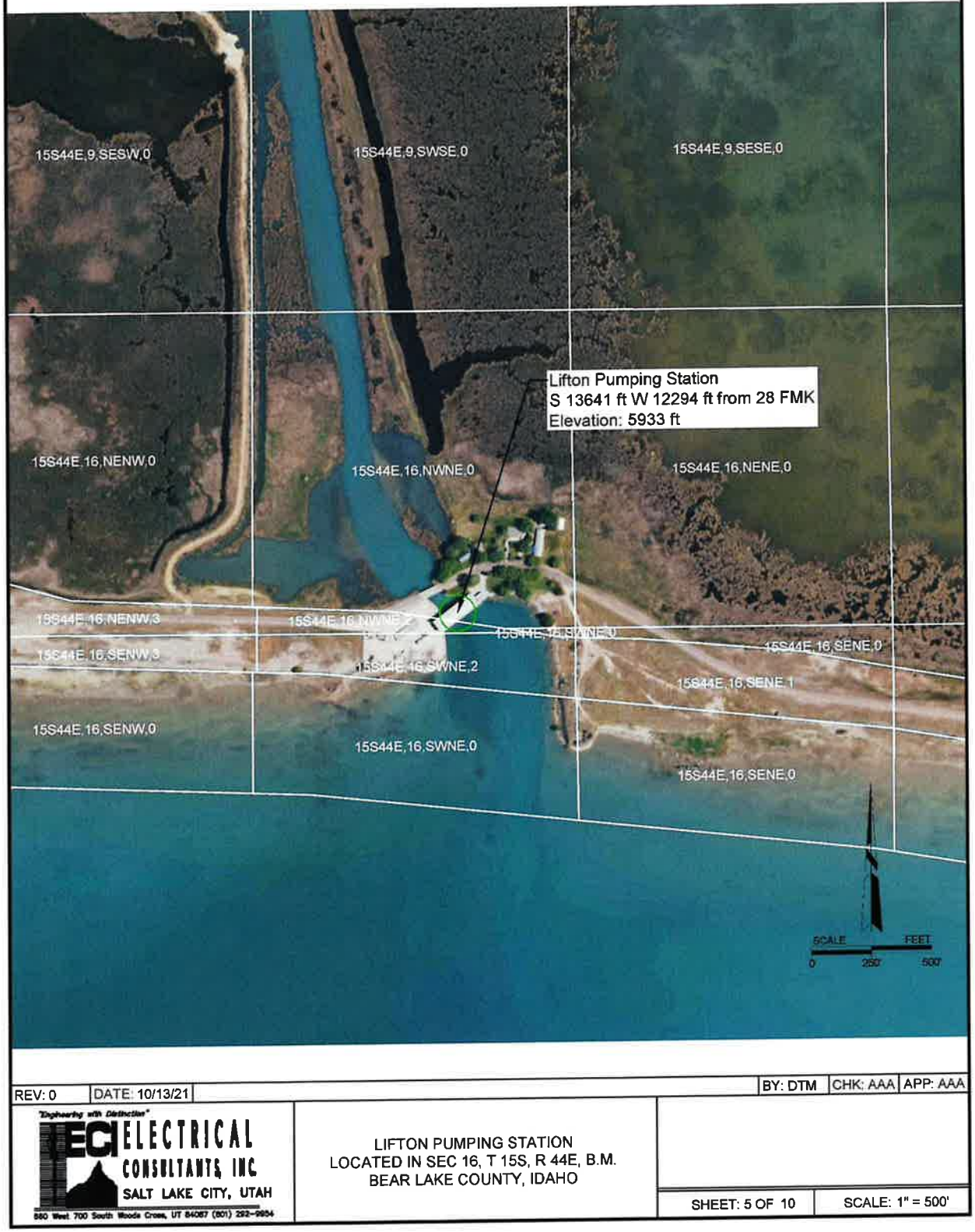
Outlet Canal Headgates



REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA
"Engineering with Distinction" ECI ELECTRICAL CONSULTANTS, INC. SALT LAKE CITY, UTAH 880 West 700 South Woods Cross, UT 84087 (801) 292-9954	OUTLET CANAL HEADGATES LOCATED IN SEC. 17, T14S,R44E, LOT 5 B.M. BEAR LAKE, IDAHO				
			SHEET: 3 OF 10	SCALE: 1" = 500'	


BEAR LAKE CAUSEWAY INLET
15S44E,15,NENW,0
15S44E,15,NWNE,0
Bear Lake Causeway Inlet
S 14398 ft W 8010 ft from 28 FMK
Elevation: 5938 ft
15S44E,15,SENW,0
15S44E,15,SWNE,0
15S44E,15,SENW,3
15S44E,15,SENW,0
15S44E,15,SWNE,0
15S44E,15,SESW,0
15S44E,15,NWSE,0
SCALE
FEET
0
250'
500'
REV: 0
DATE: 10/13/21
BY: DTM
CHK: AAA
APP: AAA
ELECTRICAL CONSULTANTS, INC.
SALT LAKE CITY, UTAH
BEAR LAKE CAUSEWAY INLET
LOCATED IN SEC 15, T15S, R44E, LOT 3,B.M.
BEAR LAKE COUNTY, IDAHO
SHEET: 4 OF 10
SCALE: 1" = 500'

LIFTON PUMPING STATION



REV: 0	DATE: 10/13/21	BY: DTM	CHK: AAA	APP: AAA

"Engineering with Distinction"
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SALT LAKE CITY, UTAH
860 West 700 South Woods Cross, UT 84087 (801) 292-9954

LIFTON PUMPING STATION
LOCATED IN SEC 16, T 15S, R 44E, B.M.
BEAR LAKE COUNTY, IDAHO

SHEET: 5 OF 10 | SCALE: 1" = 500'

RAINBOW CANAL HEADGATES



REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA

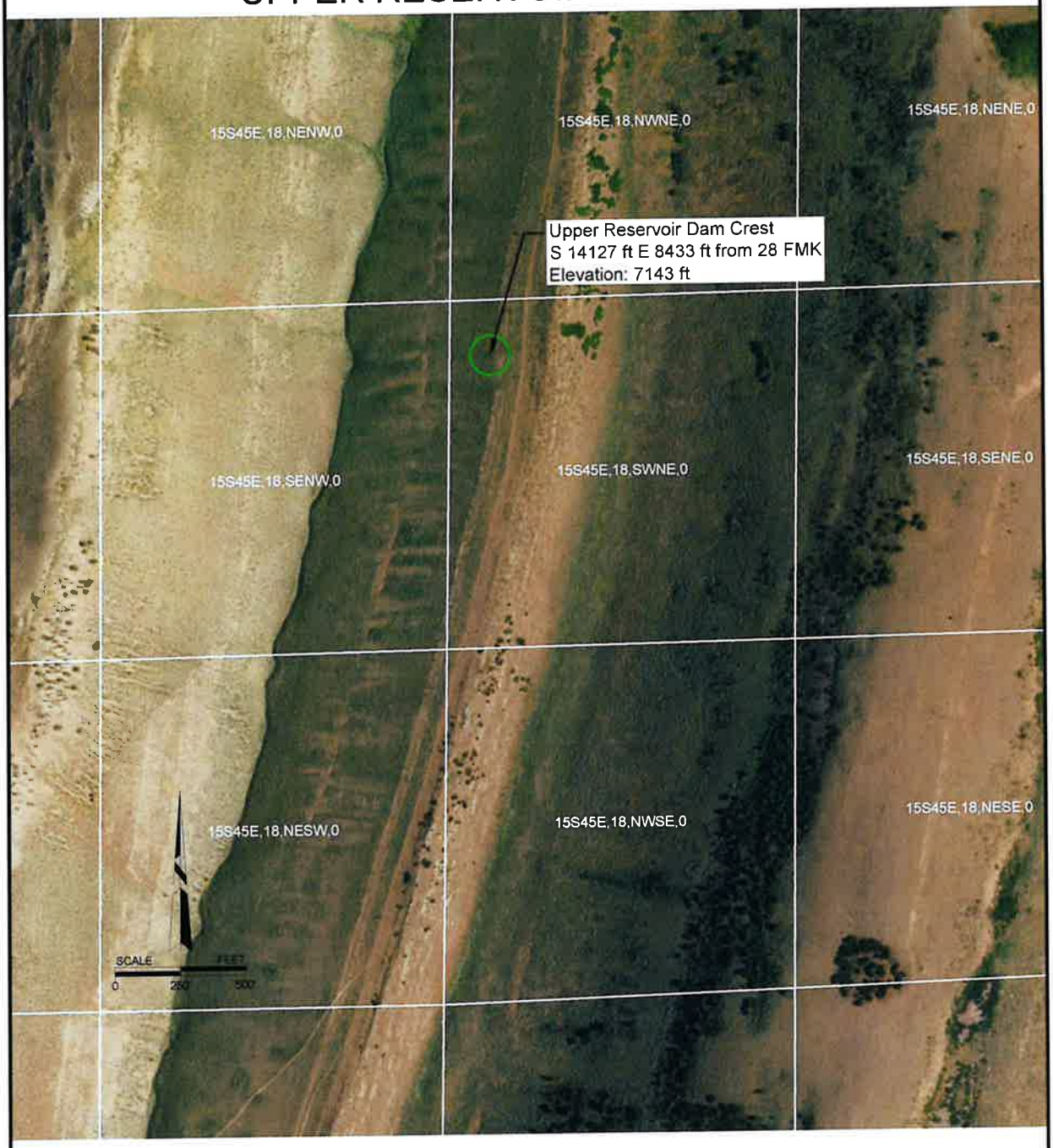
"Engineering with Distinction"

ELECTRICAL CONSULTANTS, INC.
SALT LAKE CITY, UTAH
560 West 700 South Woods Cross, UT 84087 (801) 292-9954

RAINBOW CANAL HEADGATES
LOCATED IN SEC 34, T 13S, R 44E, B.M.
BEAR LAKE COUNTY, IDAHO

SHEET: 6 OF 10 | SCALE: 1" = 500'

UPPER RESERVOIR DAM CREST



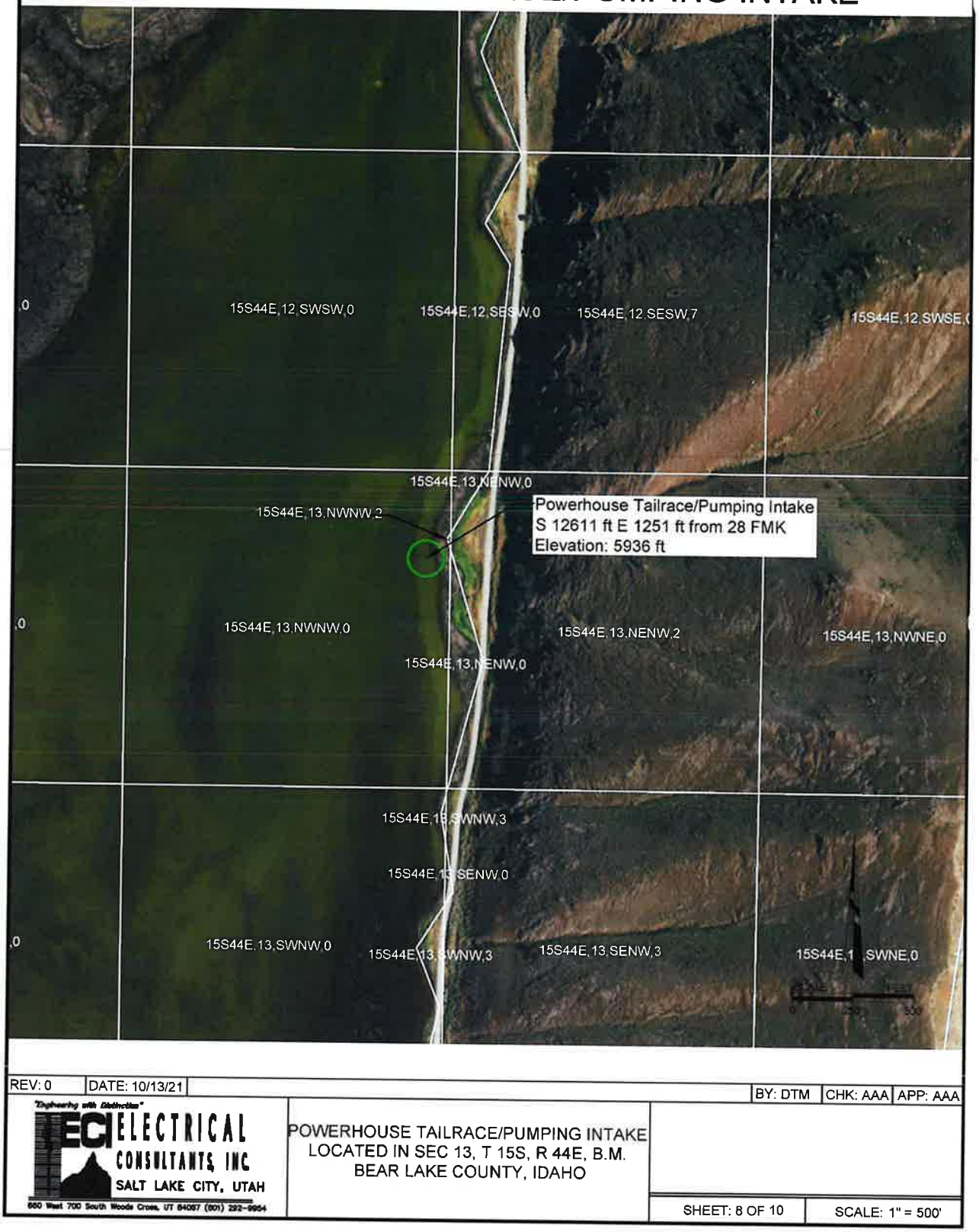
REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA

"Engineering with Distinction"
ELECTRICAL CONSULTANTS, INC
SALT LAKE CITY, UTAH
560 West 700 South Woods Cross, UT 84087 (801) 292-9954

UPPER RESERVOIR DAM CREST
LOCATED IN SEC 18, T 15S, R 45E, B.M.
BEAR LAKE COUNTY, IDAHO

SHEET: 7 OF 10 | SCALE: 1" = 500'

POWERHOUSE TAILRACE/PUMPING INTAKE



REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA

ECI ELECTRICAL CONSULTANTS, INC
"Engineering with Distinction"
SALT LAKE CITY, UTAH
600 West 700 South Woods Cross, UT 84087 (801) 292-9954

POWERHOUSE TAILRACE/PUMPING INTAKE
LOCATED IN SEC 13, T 15S, R 44E, B.M.
BEAR LAKE COUNTY, IDAHO

SHEET: 8 OF 10 | SCALE: 1" = 500'

LOWER RESERVOIR NORTH GATE



REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA
ELECTRICAL CONSULTANTS, INC. SALT LAKE CITY, UTAH 860 West 700 South Woods Cross, UT 84087 (801) 292-9954		LOWER RESERVOIR NORTH GATE LOCATED IN SEC 11, T 15S, R 44E, B.M. BEAR LAKE COUNTY, IDAHO			
			SHEET: 9 OF 10		SCALE: 1" = 500'

LOWER RESERVOIR WEST GATE



REV: 0	DATE: 10/13/21		BY: DTM	CHK: AAA	APP: AAA

ELECTRICAL CONSULTANTS, INC
SALT LAKE CITY, UTAH

LOWER RESERVOIR WEST GATE
LOCATED IN SEC 15, T 15S, R 44E, B.M.
BEAR LAKE COUNTY, IDAHO

SHEET:10 OF 10 | SCALE: 1" = 500'

Attachment G RESERVOIR DIMENSIONS AND VOLUMES

Table 3: Reservoir dimensions and volumes						
	Surface Area (acres)	Active Storage (AF)		Dead Pool (AF)	Total Volume (AF)	Dam Height (feet)
Bear Lake[105] (at 5,923.65 ft.)	69,760	1,421,000.0				
Mud Lake[106] (at 5,924.0 ft.)	15,120	58,676.0				
Bear Lake Reservoir (Bear Lake plus Mud Lake)	84,880	1,479,676.0				
Mud Lake Regulation Reservoir (at 5,924.0 ft.)	7,691[107]	33,264.0				
Upper Reservoir	182	23,730.0		3,150.0	26,880.0	530
Lower Reservoir (preferred site)	1,390	Surcharge area:	16,053.0	4,170.0	27,900.0	22
		Below surcharge area:	7,677.0			
		Total active storage:	23,730.0			
Initial fill	The volume of the initial fill of the Project will be 19,203 AF (the sum of 16,053 AF (surcharge area of Lower Reservoir) + 3,150 AF (dead pool of Upper Reservoir)). This is the volume of water in excess of the water already sitting in Mud Lake below the surcharge area of the Lower Reservoir.					
Active storage	The total active storage in the Project is 23,730 AF (the same in both the Upper and Lower Reservoirs). The Project's water will be moved back and forth between the two reservoirs; it will never fill both. If the Upper Reservoir is full, the Lower Reservoir's active storage must be empty. Thus, the active storage capacity of each reservoir is the same, and the active storage capacity of the Project is equal to the active storage capacity of either one of the reservoirs.					

[105] Bear Lake holds roughly 6,500,000 AF of water. The maximum active storage capacity of Bear Lake is 1,421,000 acre-feet. DOI Report, p. 5 (reproduced in Attachment Y on page 243). (PacifiCorp's current estimate of this volume coincides with the DOI Report.) The active capacity of Bear Lake at various elevations throughout its range (5,902.00 to 5,923.65 feet) is displayed in Attachment I, Table 5 on page 109. See also History of Compact, p. 5 (reproduced in Attachment Z on page 287) (stating that the capacity table for active storage was prepared by A.B. Purton, USGS, in 1942 from a 1922 UP&L contour map).

[106] This Mud Lake volume is inclusive of the Mud Lake Regulation Reservoir and all wetland units hydraulically connected to the Mud Lake Regulation Reservoir based on verbal information from Bear Lake National Wildlife Refuge manager Jeremy Jirak. This corresponds to the area included in the 1907 R.O.W. granted to PacifiCorp's predecessor less the area north of Paris Dike excluded in 1927. See footnote 21 at page 27**Error! Bookmark not defined.**. PacifiCorp calculates its active capacity to be 58,676 AF (at the full pool elevation of 5,924 feet, UP&L datum). This estimate is based on aerial lidar information collected in fall 2016 when the entire refuge was drawn down as far as possible. The DOI Report, p. 5 (reproduced in Attachment Y on page 243) issued in 1959 gives the active capacity of Mud Lake as 34,000 acre-feet. PacifiCorp stands by the higher number, which is based on the best available data and modern estimation techniques.

[107] PacifiCorp's application for preliminary permit submitted to FERC states a slightly different number (8,286 AF) for the size of the Mud Lake Regulation Reservoir. The larger number in the FERC application is based on project boundaries (which include portions of berms) rather than wetted surface area. The lower number specified here (7,691 AF) includes only the wetted area of the Mud Lake Regulation Reservoir as depicted in the Project/Hereafter Maps.

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Attachment H DEPLETION AND ELEVATION IMPACT SUMMARY

Table 4: Depletion and elevation impact summary				
Reservoir	**Component**	**Mitigation for downriver effects of depletions**	**Physical impact on elevation**	**Elevation adjustment based on water availability**
Lower Reservoir	The portion of active storage within the surcharge area - initial fill	Zero impact. Under the current operating regime, this water is available for release to meet any obligation to other users. Hence, there is no depletion to mitigate.	16,053 AF, reducing elevation by 0.23 feet. A lake elevation adjustment could occur in every year until a wet year top-off refills the gap in Bear Lake volume caused by the initial fill.	16,053 AF, resulting in a permanent elevation adjustment of 0.23 feet. This potential adjustment reflects that surcharge water, although not measured in Mud or Bear Lake elevations, is available to irrigators and should be considered part of the water supply upon which the Exhibit A calculation is made in the Bear Lake Settlement Agreements.
	The portion of active storage below the surcharge area - initial fill	Zero impact. This is the same water that would be in Mud Lake if the Project were not there. It remains available to meet any obligation to other users. Hence, there is no depletion to mitigate.	Zero impact. This water has no impact on the elevation of Bear Lake; it was already in Mud Lake.	Zero impact. This water has no impact on the elevation of Bear Lake; it was already in Mud Lake.
	Dead pool	Zero impact. There is no change in conditions (pre- and post-Project).	Zero impact. There is no change in conditions (pre- and post-Project).	Zero impact. There is no change in conditions (pre- and post-Project).
	Evaporative loss	Zero impact. There is no change in conditions (pre- and post-Project).	Zero impact. There is no change in conditions (pre- and post-Project).	Zero impact. There is no change in conditions (pre- and post-Project).
	Seepage	Zero impact. There is no change in conditions (pre- and post-Project).	Zero impact. There is no change in conditions (pre- and post-Project).	Zero impact. There is no change in conditions (pre- and post-Project).
Upper Reservoir	Dead pool initial fill	3,150 AF. One-time mitigation for initial fill of the dead pool, to be accomplished through dry-up of agricultural land.	3,150 AF, reducing elevation by 0.05 feet. A lake elevation adjustment could occur in every year until a wet year top-off refills the gap in Bear Lake volume caused by the initial fill or until mitigation is complete.	Zero impact. The dead pool water is not "available" for purposes of the Exhibit A calculation is made in the Bear Lake Settlement Agreements.
	Active capacity	Zero impact. This water is available for release to meet any obligation to other users. Hence, there is no depletion to mitigate.	Zero impact. Lake elevation impacts are addressed above in the context of the Lower Reservoir. No additional elevation adjustment is required for the Upper Reservoir.	Adjustment for active capacity are discussed above (for the Lower Reservoir).
	Evaporative loss	20 AF. Ongoing (permanent) mitigation for evaporative loss through dry-up of agricultural land.	20 AF, reducing elevation by 0.0003 feet. In theory, a lake elevation adjustment could occur on an ongoing (permanent) basis, although the elevation difference would be too small to actually measure in the lake.	Zero impact. The evaporative loss water is not "available" for purposes of the Exhibit A calculation is made in the Bear Lake Settlement Agreements.
	Seepage	Zero impact. Seepage, if any, will return to Bear Lake.	Zero impact. Seepage, if any, will return to Bear Lake.	Zero impact. Seepage, if any, will return to Bear Lake.

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Attachment I — BEAR LAKE ELEVATIONS, SHOWING ASSOCIATED PTES, ETC.

Notes:

This table draws on multiple documents (see "Source" column).
The "Storage (AF) (rounded)" column corresponds to the storage numbers found in the referenced documents (listed under "Source"). The "Storage (AF) (PacifiCorp data)" number reflects the more precise storage capacity calculated by PacifiCorp. Note that PTEs refer to the target elevation for March 31, while allocation obligations under the Operations Agreement key off the projected peak elevation, which typically occurs after March 31.

Table 5: Bear Lake elevations

	Lake elevation (in ft.)[108]	Active Storage (AF) (rounded)	Active Storage (AF) (PacifiCorp data)	Estimated Allocation to Irrigators (AF)	Comment	Source Note: A copy of *Amended Bear Lake Settlement*, Ex. A is on page 235 of Attachment W.
Max elevation	5,923.65	1,421,000	1,421,244	245,000	This level has been reached multiple times, according to the Lifton Fact Sheet. This is identified as the highest lake level in the Amended Bear Lake Settlement (Recital A and Ex. A). According to the DOI Report, the 1,421,000 AF figure represents the volume of water stored between maximum lake elevation 5,923.65 and minimum lake elevation 5,902.00.	Operations Agreement, p. 1 and ¶ 2(C)(iii), p 4; Amended Bear Lake Settlement, Ex. A; PacifiCorp's Lifton Fact Sheet; Final Memorandum and Decision, Minimum Lake Level Water Right No. 11-7406, ¶4, p. 3; DOI Report at 5; IWRB, Bear River Basin Investigation (Feb. 1970), pp. 3-4.
Recent high elevation	5,923.61		1,418,422	245,000	The is highest elevation achieved in recent years (1986).	PacifiCorp's Lifton Fact Sheet
Average elevation without Bear Lake Facilities	5,922.00		1,305,076	245,000	According to one model, the average lake level under pristine conditions would have been 5,922 feet.	*Bear River/Bear Lake – Hydrologically, Where Would They Be Without Being Connected?* by Norman E. Stauffer, Jr., Ph.D., P.E., and Craig W. Miller, P.E. (in backfile for Idaho Water Right No. 11-7406).
Cutoff for gravity discharge from Bear Lake	5,920.65				Release of the top three feet of Bear Lake water is made by gravity through a sluiceway. Below this elevation, water must be pumped at the Lifton Pump Station.	IWRB, Bear River Basin Investigation (Feb. 1970), pp. 3-3 to 3-4.

[108] Lake elevation levels in Table 5 are set based on UP&L Bear Lake datum. For NAVD88 datum, add 6.78 feet to each elevation. The UP&L Bear Lake datum was established to support construction work that took place in the 1900 to 1920 era, and is currently the basis for managing the levels of Bear Lake.

	Lake elevation (in ft.)[108]	Active Storage (AF) (rounded)	Active Storage (AF) (PacifiCorp data)	Estimated Allocation to Irrigators (AF)	Comment	Source Note: A copy of *Amended Bear Lake Settlement*, Ex. A is on page 235 of Attachment W.
Higher PTE per Gentile Valley easements	5,921.00		1,234,921	245,000	This higher normal year PTE could be achieved if Gentile Valley max target flow were increased from 1,500 cfs to 2,600 cfs (per the Soda Spin initiative)	Bear River Capacity Project (PacifiCorp PowerPoint)
	5,920.50	Note: The normal target elevation of Mud Lake is 5,920.5 (two and a half feet higher than the normal runoff year PTE for Bear Lake). However, there are occasions when the elevation of Bear Lake is higher than Mud Lake.				
Low runoff year PTE	5,920.00		1,164,982	245,000	Low runoff year target elevation to be achieved, if possible, on March 31.	Operations Agreement, ¶ 2(C), p. 3.
Normal runoff year PTE	5,918.00	1,000,000	1,025,861	245,000	Normal runoff year target elevation to be achieved, if possible, on March 31.	Operations Agreement, ¶ 2(C), p. 3; FERC Docket No. UL97-11-001, 97 FERC ¶ 61,161, 2001 WL 1386426, **2 (Nov. 8, 2001).
High runoff year PTE	5,916.00		888,632	245,000	High runoff year target elevation to be achieved, if possible, on March 31. IDFG submitted comments on IDWR's application for Minimum Flow Water Right No. 11-7406 calling for a minimum lake level of at least 5,916 feet.	Operations Agreement, ¶ 2(C), p. 3. Comment letter from Richard Scully, Regional Fishery Manager, IDFG, p. 2 (Oct. 14, 1993) in backfile for Idaho Water Right No. 11-7406.
100% of allocation --- Highest possible Irrigation Reserve	5,914.70	801,000	800,866	230,000	Above this elevation, PacifiCorp is obligated to deliver 245,000 AF to irrigators. --- The Amended Compact, art. VI, § D, p. 9 sets a range for the Irrigation Reserve from a low of 5,912.19 to a high of 5,914.70, depending on the extent of storage constructed upstream of Stewart Dam. The 5,914.70 level has not gone into effect, because current added reservoir construction is just of 30,000 AF.	*Amended Bear Lake Settlement*, Ex. A sets the allocation to irrigators at 230,000 AF, but footnote 5(g) to that exhibit states that 245,000 AF will be the maximum allocated above 5914.7 feet. --- Amended Compact, art. VI, § D, p. 9.
Current Irrigation Reserve	5,914.61		794,823	230,000	The current Irrigation Reserve is set at 5,914.61 feet based on the construction of just over 30,000 AF of new storage above Stewart Dam. The Amended Compact states that waters below the Irrigation Reserve elevation "shall constitute a reserve for irrigation. The water for such reserve shall not be released solely for the generation of power . . . ."	Amended Compact, art. VI, § D, p. 9.
98% of allocation	5,914.00	754,000	753,979	225,000	At this elevation, PacifiCorp is obligated to deliver 225,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
96% of allocation	5,913.00	688,000	687,543	220,000	At this elevation, PacifiCorp is obligated to deliver 220,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
Original Irrigation Reserve	5,912.91		681,597	220,000	The Amended Compact initially set the Irrigation Reserve at 5,912.91, but provided that it would be raised incrementally to a maximum of 5,914.70 as new storage capacity above Stewart dam is added.	Amended Compact, art. VI, § D, p. 9.

	Lake elevation (in ft.)[108]	Active Storage (AF) (rounded)	Active Storage (AF) (PacifiCorp data)	Estimated Allocation to Irrigators (AF)	Comment	Source Note: A copy of *Amended Bear Lake Settlement*, Ex. A is on page 235 of Attachment W.
93% of allocation	5,912.00	622,000	621,821	215,000	At this elevation, PacifiCorp is obligated to deliver 215,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
91% of allocation --- Upstream Storage Restriction	5,911.00	557,000	556,780	210,000	At this elevation, PacifiCorp is obligated to deliver 210,000 AF to irrigators. --- The 1980 Amended Compact added a provision prohibiting diversion to the second block of new upstream storage when the lake elevation is below 5,911 feet.	Amended Bear Lake Settlement, Ex. A. --- Amended Compact, art. VI, § B, pp. 8-9.
89% of allocation	5,910.00	492,000	492,320	205,000	At this elevation, PacifiCorp is obligated to deliver 205,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
79% of allocation	5,909.00	428,000	428,419	181,000	At this elevation, PacifiCorp is obligated to deliver 181,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
73% of allocation	5,908.00	365,000	365,154	168,000	At this elevation, PacifiCorp is obligated to deliver 168,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
61% of allocation	5,907.00	303,000	302,582	141,000	At this elevation, PacifiCorp is obligated to deliver 141,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
45% of allocation	5,906.00	241,000	240,668	104,000	At this elevation, PacifiCorp is obligated to deliver 104,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
24% of allocation	5,905.00	180,000	179,557	55,000	At this elevation, PacifiCorp is obligated to deliver 55,000 AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
0% of allocation	5,904.00	119,000	119,071	0	At this elevation, PacifiCorp is obligated to deliver zero AF to irrigators.	Amended Bear Lake Settlement, Ex. A.
Lowest elevation	5,902.00			0	This is the lowest recorded elevation, reached on 11/9/1935. Idaho's minimum lake level right (No. 11-7406) sets this as the minimum lake level (with a 5/13/1993 priority). Junior appropriations and transfers are constrained by this right, but only at this very low lake level. "Utah Power's pumping plant on Bear Lake is not capable of diverting water at a Bear Lake elevation lower than 5,902 feet." IDWR's *Final Memorandum and Decision, Minimum Lake Level Water Right No. 11-7406* ¶4, p. 3 (11/10/1993). "Utah Power [and others] each indicated that their support for approval of Application No. 11-7406 was specifically conditioned on there being no interference with the ability of Utah Power to pump water from the lake under its rights down to elevation 5,902." *Id*, ¶5, p. 4. "It is apparent that lake level protection at higher elevation than 5,902 feet would be desirable from the standpoint of fish, recreation and aesthetics. However, with the existence of rights which presently permit lowering of the lake to that elevation protection of the lake level at elevation 5,902 feet would be the minimum possible." *Id.*, ¶7, p. 5.	Operations Agreement, ¶ 2(C)(iii), p 4; Operations Agreement, p. 1; PacifiCorp's Lifton Fact Sheet; Amended Bear Lake Settlement (Recital A and Ex. A); History of Compact, p. 6; IDWR's *Final Memorandum and Decision, Minimum Lake Level Water Right No. 11-7406* (11/10/1993).

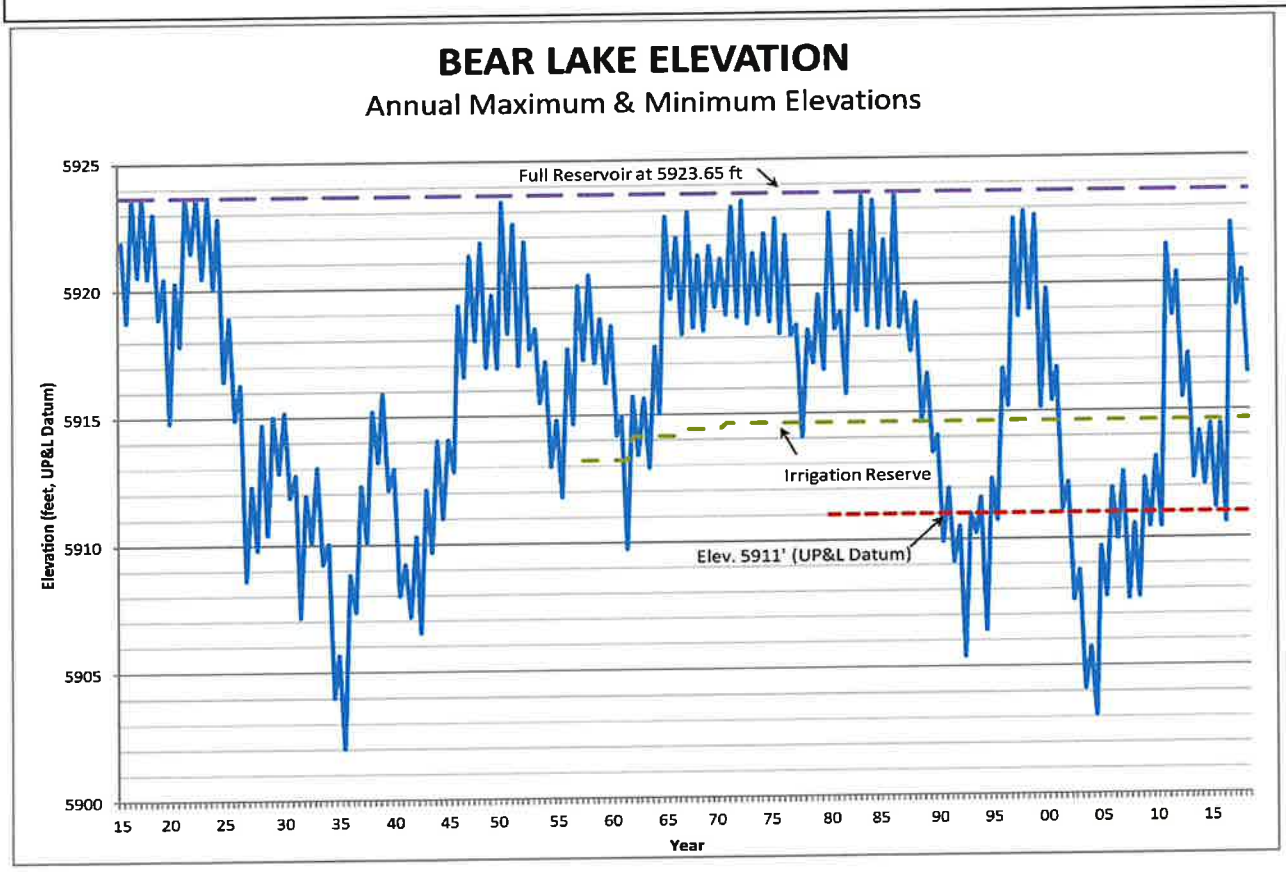
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Attachment J **HISTORICAL BEAR LAKE ELEVATIONS FROM 1915 TO 2019**

Notes:

This graph is reproduced from the Bear River Commission's Second 20-Year Review, p. 19.

The hydrograph below displays the lowest and highest elevation reached for each year. The purple line shows the maximum reservoir elevation of 5,923.65 feet. The green line shows the Irrigation Reserve (currently 5,914.61 feet) first imposed by the Original Compact in 1958 and revised in the Amended Compact, art. VI, § D, p 9, below which PacifiCorp may not release water solely for hydropower. The red line shows the Upstream Storage Restriction (5,911 feet) set by the Amended Compact, art. VI, § B, pp. 8-9, below which diversion to the second block of new upstream storage is restricted for the benefit of Bear Lake.



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Attachment K — PRE-TRANSFER RIGHTS (AS DISPLAYED IN IDWR DATABASE AND AS THEY COULD BE UPDATED)

Notes:

PacifiCorp's Bear Lake Reservoir Decreed Rights are defined by the Dietrich and Kimball Decrees, copies of which are included in Attachment Q and Attachment R, respectively. These decrees satisfy Part 2A of the Idaho Application Form.[109]

Table 6 on page 116 shows how PacifiCorp's Bear Lake Reservoir Decreed Rights are now displayed in IDWR's database. This description does not accurately reflect the rights as they are described in the Dietrich and Kimball Decrees, nor does it conform to standard IDWR format and structure for storage rights.

Table 7 on page 116 shows how these pre-transfer rights could be administratively updated to correct these omissions and inaccuracies.

See Attachment L, Table 8 on page 118 for a display of the post-transfer Bear Lake Reservoir Decreed Rights.

[109] Part 2A of the Idaho Application Form calls for the submission of "Part 2A reports," which typically describe existing water rights prior to transfer as reflected in IDWR's electronic database. However, these reports are not appropriate in this instance because the Bear Lake Reservoir Decreed Rights are defined by the Decrees which are not accurately reflected in IDWR and UDWRi's databases. See Attachment K, Table 7 (Pre-transfer rights as they could be updated in IDWR database) on page 116 for a description of how PacifiCorp suggests its existing (pre-transfer) rights should be displayed in IDWR's database.

IDWR's *Instructions for filing an Application for Transfer of a Water Right* (Form 222 Instructions, dated 7/2018) state that, instead of Part 2A reports, an applicant may submit a "[c]opy of a decree or partial decree issued by a court of law." Thus, the copies of the Dietrich and Kimball Decrees satisfy Part 2A of the Idaho Application Form.

Table 6: Pre-transfer rights as now displayed in IDWR database

Water Right No.	Priority	Quantity (cfs)	Nature of Use (Purpose)	Place of Use	Period of use	Source / Tributary.	Points of Diversion
11-248	3/1/1911	3,000.00	Power from Storage	T14S R44E §15 SWSE—BM (a location on the Rainbow Canal above the outlet of the Ream-Crocket Canal)	1/1 to 12/31	Bear River / Great Salt Lake	Rainbow Dam T13S R44E §34 SENE—BM --- Ream-Crocket Canal Intake T14S R45E §17 SENW—BM
			Irrigation	Same as Power from Storage	4/20 to 9/30		
11-249	9/11/1912	2,500.00	Same as 11-248	Same as 11-248	Same as 11-248	Same as 11-248	Same as 11-248
11-250	9/1/1912	300.00	Power	T13S R44E §34—BM T14S R45E §17—BM	blank	Bear Lake inflow / Bear River	Stewart Dam and/or Rainbow Dam T13S R44E §34 NE—BM --- Ream-Crocket Canal Intake T14S R45E §17 NW—BM
			Irrigation	Same as Power	blank		
11-251	9/1/1912	200.00	Power from Storage	Same as 11-248	4/20 to 9/30	Mud Lake inflow / Bear River	Same as 11-248
Total (all Bear Lake Reservoir Decreed Rights)		6,000					

Table 7: Pre-transfer rights as they could be updated in IDWR database

Water Right No.	Priority	Quantity (cfs)	Nature of Use (Purpose)	Place of Use	Period of use	Source / Tributary.	Points of Diversion
11-248	3/1/1911	3,000.00	Diversion to Storage	n/a	1/1 to 12/31	Bear River / Great Salt Lake	Stewart Dam: T13S R44E §34 NENE—BM --- Ream-Crocket Canal Intake: T14S R45E §17 SENW—BM
			Power Storage	Bear Lake Reservoir	1/1 to 12/31		
			Irrigation Storage	Bear Lake Reservoir	1/1 to 12/31		
			Stockwater Storage	Bear Lake Reservoir	1/1 to 12/31		
			Power from Storage	In or along Bear River	1/1 to 12/31		
			Irrigation from Storage	Bear River Valley	4/20 to 9/30		
			Stockwater from Storage	Bear River Valley	1/1 to 12/31		
			Flood Control Storage	Bear Lake Reservoir	1/1 to 12/31		
			Flood Control Release from Storage	Bear River Valley	1/1 to 12/31		
11-249	9/11/1912	2,500.00	Same as 11-248	Same as 11-248	Same as 11-248	Same as 11-248	Same as 11-248
11-250	9/1/1912	300.00	Same as 11-248	Same as 11-248	Same as 11-248	Bear Lake inflow / Bear River	Lifton Pump Station: T15S R44E §16 NWNE—BM; T15S R44E §16 NWNE2—BM (See footnote 112 on page 122 re PLSS description.) --- (See footnote 41 on page 38 regarding possible additional or alternative PODs for Bear Lake storage.)
11-251	9/1/1912	200.00	Same as 11-248	Same as 11-248	Same as 11-248	Mud Lake inflow / Bear River	Outlet Canal Headgates: T14S R44E §17 NENW5—BM
Total (all Bear Lake Reservoir Decreed Rights)		6,000					

See notes that follow Table 8 (Post-transfer description of water rights) on page 118, which are also applicable to this Table 7.

Attachment L POST-TRANSFER RIGHTS

Notes:

Table 8 on the following page is added in accordance with Part 1.B.1 (page 3) of the Idaho Application Form. Further notes are set out on the following page.

See Attachment B, section VIII on page 40 for a discussion of "Alternative ways of describing the effect of the transfer and the scope of the post-transfer rights."

Attachment K, Table 6 on page 116 shows how PacifiCorp's Bear Lake Reservoir Decreed Rights are now displayed in IDWR's database.

Attachment K, Table 7 on page 116 shows how these pre-transfer rights could be administratively updated to correct omissions and inaccuracies.

See Attachment B, section VIII on page 40 for a discussion of "Alternative ways of describing the effect of the transfer and the scope of the post-transfer rights."

Table 8: Post-transfer description of water rights

(changes from Table 7 resulting from transfer shown in red)

Water Right No.	Priority	Quantity (cfs)	Nature of Use (Purpose)	Place of Use	Period of use	Source / Tributary.	Points of Diversion
11-248	3/1/1911	3,000.00	Diversion to Storage	n/a	1/1 to 12/31	Bear River / Great Salt Lake	Stewart Dam: T13S R44E §34 NENE—BM --- Ream-Crocket Canal Intake: T14S R45E §17 SENW—BM --- Additional PODs for Dry Canyon Project if deemed appropriate by IDWR (see discussion in Narrative, section VII.B.2 on page 42).
			Power Storage	Bear Lake Reservoir, Upper Reservoir, and Lower Reservoir	1/1 to 12/31		
			Irrigation Storage	Bear Lake Reservoir	1/1 to 12/31		
			Stockwater Storage	Bear Lake Reservoir	1/1 to 12/31		
			Power from Storage	In or along Bear River and Dry Canyon Powerhouse	1/1 to 12/31		
			Irrigation from Storage	Bear River Valley	4/20 to 9/30		
			Stockwater from Storage	Bear River Valley	1/1 to 12/31		
			Flood Control Storage	Bear Lake Reservoir	1/1 to 12/31		
			Flood Control Release from Storage	Bear River Valley	1/1 to 12/31		
11-249	9/11/1912	2,500.00	Same as 11-248	Same as 11-248	Same as 11-248	Same as 11-248	Same as 11-248
11-250	9/1/1912	300.00	Same as 11-248	Same as 11-248	Same as 11-248	Bear Lake inflow / Bear River	Lifton Pump Station: T15S R44E §16 NWNE—BM; T15S R44E §16 NWNE2—BM (See footnote 112 on page 122 re PLSS description.) --- (See footnote 41 on page 38 regarding possible additional or alternative PODs for Bear Lake storage.) --- Additional PODs for Dry Canyon Project if deemed appropriate by IDWR (see discussion in Narrative, section VII.B.2 on page 42).
11-251	9/1/1912	200.00	Same as 11-248	Same as 11-248	Same as 11-248	Mud Lake inflow / Bear River	Outlet Canal Headgates: T14S R44E §17 NENW5—BM --- Additional PODs for Dry Canyon Project if deemed appropriate by IDWR (see discussion in Narrative, section VII.B.2 on page 42).
Total (all Bear Lake Reservoir Decreed Rights)		6,000					

See Table 8 notes on the following page.

Notes on Table 8: Post-transfer description of water rights

Changes (displayed in red):

The only difference between the pre-transfer rights (Table 7 on page 116) and the post-transfer rights (Table 8 on page 118) is the addition of new places of use (and possibly points of diversion) associated with the Upper Reservoir, Lower Reservoir, and Dry Canyon Powerhouse. These changes are displayed in red on Table 8 on page 118.

Quantity:

The Dietrich and Kimball Decrees quantify the Bear Lake Reservoir Decreed Rights only in terms of rate of flow. The active storage capacity of Bear Lake Reservoir is currently estimated to be 1,483,703 AF (see Attachment G, Table 3 on page 105). The active storage capacity of both the Upper Reservoir and the Lower Reservoir is 23,730 AF. The dead storage capacity of the Upper Reservoir, aka dead pool, is 3,150 AF. However, these volumes are not elements of the water rights, and, hence are not listed in Tables 4 or 5. See discussion in Attachment B, section VIII.A (First alternative: Simple recognition of authority to operate the Dry Canyon Project) on page 40 and section VIII.B.4 (Volume of storage) on page 47.

Period of Use:

The Dietrich Decree sets the period of use for hydropower (year round) and irrigation (April 20 to September 30). Dietrich Main Narrative, Dietrich Decree, § I(3), p. 10 (Attachment Q on page 156). PacifiCorp seeks no change in the period of use.

Purposes of Use:

PacifiCorp seeks no change in the purposes of use. See discussion in Attachment B section VIII.B.1 on page 41.

Place of Use ("POU"):

The Upper Reservoir is identified as a new POU (hence, it is displayed in red on Table 8 above).

PacifiCorp does not view the Lower Reservoir as a new POU. It will be constructed within the footprint of Mud Lake, which is already an authorized POU. Accordingly, although the Lower Reservoir is identified as a POU in Table 8, it is shown in black ink. If IDWR prefers, the Lower Reservoir need not be called out separately at all (just as the Mud Lake Regulation Reservoir is not called out separately).

Storage rights in Idaho generally do not list a POU for the "Diversion to Storage" component. The description set out above reflects that practice.

Many storage rights in Idaho identify a POU only for the "[Use] from Storage" components (associated with the location of the end use), with no POU specified for the "[Use] Storage" component (except for in-reservoir purposes like Recreation Storage). However, other storage rights display the reservoir as the POU for all "[Use] Storage" components. The description set out above follows the latter approach. PacifiCorp would not object, however, to listing no POU for the "[Use] Storage" components, if that is IDWR's preference.

Consistent with the broad language in the Dietrich Decree, the place of use description for the "Irrigation from Storage" and "Stockwater from Storage" components describes a broad POU ("Bear River Valley"). This is not a change.

The POU for the "Power from Storage" component is listed here as "In or along Bear River and Dry Canyon Powerhouse." This is because the Decrees' Schedule of Rights Narratives could be read to limit power generation to "in or along Bear River," thus requiring a transfer to add the Dry Canyon Powerhouse. This may be an overly restrictive reading of the Decrees. See Attachment B, section XII.B.3 on page 68. In any event, the addition of the Dry Canyon Powerhouse as a named place of use will clarify that the new power plant is an authorized place of use.

Notes on Points of Diversion:

PacifiCorp does not believe that any of the Dry Canyon Project facilities constitute new points of diversion or rediversion under Idaho practice. See Attachment B, section VIII.B.2 (Possible new points of diversion or rediversion) on page 42. It is possible, however, that IDWR view this differently and deem one or more to be new points of diversion or rediversion, in which case PacifiCorp has no objection to them being added as such. See Attachment M, Table 11 (PLSS descriptions for Dry Canyon Project (PODs and other facilities)) on page 124).

Attachment M PLSS LEGAL SUBDIVISIONS

Notes:

In this application, PacifiCorp employs the PLSS format displayed on IDWR's mapping tool. For example, T15S R44E §16 NWNE2—BM refers to Township 15 South, Range 44 East, section 16, that portion of Lot 2 within the NWNE quarter-quarter, Boise Meridian. Some lots cross quarter-quarter lines. So in IDWR's format a lot may be displayed twice, once in each quarter-quarter. For example, government lot 4 in T15S R44E §14 falls within two quarter-quarters (NWSW and SWNW). Government lot 4 is displayed as NWSW4 and SWNW4, and the portion of those quarter-quarters not falling within government lot 4 are displayed as NWSW and SWNW.

UDWRi's mapping tool is slightly different. It follows the Master Title Plat approach of displaying only the lot number without the quarter-quarter.

In accordance with IDWR's protocol, the tables in this attachment display only PLSS information. In accordance with UDWRi's protocol, precise pinpoint locations of points of diversion and other key features are displayed in the UCAP. These location descriptions are tied to a USGS Benchmark near Mud Lake identified as BM 28 FMK. Pinpoint locations are also displayed in the maps set out in the Pinpoint Maps (Attachment F on page 93).

Table 9: PLSS descriptions of PODs for Bear Lake Reservoir Decreed Rights			
PODs	**Source**	**Township, section and range**	**Associated water right(s)**
Stewart Dam (this POD feeds the Rainbow Canal and is the primary diversion point for Bear River water)	Bear River	T13S R44E §34 NENE—BM.[110]	Stewart Dam Rights
Ream-Crocket Canal Intake (fka Dingle Canal Diversion Dam) (located upriver from Stewart Dam)	Bear River	T14S R45E §17 SENW—BM.[111]	Stewart Dam Rights
Lifton Pump Station (pumps to the Outlet Canal) (the pump station extends partially into government lot 2) (it is identified as the POD for natural inflow to Bear Lake)	Bear Lake	T15S R44E §16 NWNE—BM; T15S R44E §16 NWNE2—BM.[112]	First of the In-Lake Rights (Bear Lake natural inflows)
Outlet Canal Headgates (aka Paris Dike Outlet Gates, Outlet Water Regulating Dam, or Outlet Gates) (identified as the POD for natural inflow to Mud Lake)	Mud Lake	T14S R44E §17 NENW5—BM.[113]	Second of the In-Lake Rights (Mud Lake natural inflows)

[110] The Dietrich Decree gives the location of "Stewart Dam" and "headgates to the plaintiff's intake canal into Bear Lake Reservoir, known as the 'Rainbow Canal'" as being in section 34 (without a more precise location). Dietrich Decree, § I(1) (second paragraph), p. 7 (Attachment Q on page 153). The Schedule of Rights Narratives identifies the northeast quarter of section 34 as the location of the headwords for the Rainbow Canal (which should be understood to be Stewart Dam). Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187).

[111] The Schedule of Rights Narratives give the location of the headwords for the Dingle Inlet Canal (now known as the Ream-Crocket Canal) as the NW quarter of section 17. Schedule of Rights Narratives, Dietrich Decree § II(1), p. 14 (Attachment Q on page 160) and Kimball Decree § II(1), p. 10 (Attachment R on page 187). This location is stated also in the Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), p. 7 (Attachment Q on page 153).

[112] The PLSS description for Lifton Pump Station is displayed in the Idaho Appropriation Application (Water Right No. 11-7835) as T15S R44E §16 NWNE—BM; T15S R44E §16 SWNE2—BM. It is displayed as T15S R44E §16 SWNE—BM in the Bear Lake Minimum Lake Level Right (No. 11-7406). PacifiCorp defers to IDWR and UDWRi as to the proper PLSS description for Lifton Pump Station.

[113] The Dietrich Decree gives the location of the control works on the "dyke" as "a point approximately North 64°15' East 8120 feet from the Southwest corner of Section 18." Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), p. 8 (Attachment Q on page 154). The Dietrich Decree gives the location of the entire "dyke" extending through Mud Lake (as opposed to the control works) as "extending from Section 16 to Section 18." Dietrich Main Narrative, Dietrich Decree, § I(2) (first paragraph), pp. 7-8 (Attachment Q on pages 153-154).

(Table 9 continued)	Source	Township, section and range	Associated water right(s)
Alternative or additional POD[114]			
Bear Lake Causeway Inlet (aka Causeway Water Regulating Dam) (aka Causeway Inlet) (aka Bear Lake Inlet Gates) (Bear Lake Inlet)	Bear Lake	T15S R44E §15 SENW3—BM.	First of the In-Lake Rights (Bear Lake natural inflows)

Table 10: PLSS descriptions of other existing PacifiCorp facilities (not PODs)

Other Existing Facilities (not PODs)	Township, section and range
Outlet of the Rainbow Canal into the Outlet Canal in Mud Lake	T14S R44E §28 SWSW—BM.
Outlet of Ream-Crocket Canal (fka Dingle Inlet Canal) into the Rainbow Canal	T14S R44E §22 NWNE—BM.
Point where storage water from the Outlet Canal is injected back into the Bear River	T13S R44E §6 NESW—BM.
Rainbow Canal Headgate (aka Rainbow Dam) (aka Rainbow Canal Inlet) (a control structure near the head of the Rainbow Canal that is used to direct water flow to irrigators)	T13S R44E §34 SENE—BM.

[114] See discussion of alternative or additional POD in footnote 41 on page 38.

Table 11: PLSS descriptions for Dry Canyon Project (PODs and other facilities)	
Note: Whether any of these constitute points of diversion or rediversion is addressed in the Narrative (Attachment B), section VIII.B ("Possible new points of diversion or rediversion") on page 41.	
New Project Facilities	**Township, section and range (each section in Table 11 includes all quarter-quarters)**
Upper Reservoir	T15S R45E § 7 NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM; T15S R45E § 18 NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM.
Upper Reservoir – Dam	T15S R45E § 18, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM.
Lower Reservoir – preferred location	T15S R44E §10 NESW, NESE, NWSE, SWNE, SWSE, SENE, SENW, SESE, SESW—BM. T15S R44E §11 NESW, NESE, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE, NESW6—BM. T15S R44E §12 SWSW, NWSW, NENW, SENW, NESW, SESW, SWNW, SWNW3, SENW3, NESW6, SESW7—BM. T15S R44E §13 SWSW, NWSW, SWNW, NWNW, NENE, NENW, SENW, NWNW2, NENW2, SWNW3, SENW3, NWSW6, NESW6, SWSW7, SESW7—BM. T15S R44E §14 NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE, SESE1, SWSE2, NWSE2, NESW3, NWSW4, SWNW4—BM. T15S R44E §15 NENE, NENW, NESE, NWNE, SENE, SWNE, SENW, NESE1, SENE1, SWNE2, SENW3—BM. T15S R44E §23 NENE, NENE1—BM. T15S R44E §24 NWNW, NWNW2—BM.
Lower Reservoir – West Gate	T15S R44E § 15 NWNE, NENW, SWSE, SENW—BM; T15S R44E § 10 SESW, SWSE—BM.
Lower Reservoir – North Gate	T15S R44E § 11 NWSE, SWNE, SENE, NESE—BM.
Dry Canyon Powerhouse (underground cavern)	T15S R44E § 13, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE, NWNW2, NENW2—BM; T15S R44E § 12, SESW, SESW7—BM.
Pumping Intake / Powerhouse Tailrace (intake to Upper Reservoir, return to Lower Reservoir)	T15S R44E § 13 NWNW, NENW, NWNW2, NENW2—BM; T15S R44E § 12, SWSW, SESW, SESW7—BM.
Mud Lake Regulation Reservoir (larger area within which Lower Reservoir might be located)[115]	T15S R44E § 1, NWNW, NWSW SWNW, SWSW, NWNW5, SWNW6, NWSW9, SWSW10—BM.

[115] The Lower Reservoir could be re-located to another location within the Mud Lake Regulation Reservoir, or the entire Mud Lake Regulation Reservoir could serve as the Lower Reservoir. See discussion in Attachment B section II.D ("Potential alternative location for Lower Reservoir") on page 19 and Attachment B section III.B.9 ("Mud Lake and Mud Lake Regulation Reservoir") on page 26. The Mud

	T15S R44E § 2, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T15S R44E § 3, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM T15S R44E § 4, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T15S R44E § 5, NENE—BM. T15S R44E § 9, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T15S R44E § 10, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T15S R44E § 11, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T15S R44E § 12, NWNW, SWSW, NWSW, NENW, SENW, NESW, SESW, SWNW, NWNW2, SWNW3, SENW3, NESW6, SESW7—BM. T15S R44E § 13, SWSW, NWSW, SWNW, NWNW, NENE, NENW, SENW, NWNW2, NENW2, SWNW3, SENW3, NWSW6, NESW6, SWSW7, SESW7—BM. T15S R44E § 14, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSE, SENE, SENW, SESW, SESE, SESE1, SWSE2, NWSE2, NESW3, NWSW4, SWNW4—BM. T15S R44E § 15, NENE, NENW, NESE, NWNE, NWNW, NWSE, SWNE, SWNW, SENE, SENW, NESE1, SENE1, SWNE2, SENW3, SWNW4—BM. T15S R44E § 16, NENE, NENW, NWNE, NWNW, SWNE, SWNW, SENE, SENW, SENE1, NWNE2, NENW3—BM. T15S R44E § 23, NENE, NENE1—BM. T15S R44E § 24, NWNW, NWNW2—BM. T14S R44E § 3, SWSE, NWSE—BM. T14S R44E § 10, SWSE, NWSE, SWNE, NWNE—BM T14S R44E § 14, SENE, SWNE, SENW, SWNW, NESE, NWSE, NESW, NWSW—BM. T14S R44E §15, SWSE, SESE, SESW, SWSW, NESE, NWSE, SWNE, NWNE, SESE1, SWSE2, SESW3, SWSW4—BM. T14S R44E § 16, SWSW, NWSW, SWNW, SWNW1, NWSW2, SWSW3—BM. T14S R44E § 17 NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE, NENE1, NENW5, NWNW6—BM.

Lake Regulation Reservoir is marked in red on the *Project/Hereafter Maps* (Attachment E) beginning on page on page 81.

	T14S R44E § 20 NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 21, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE, NENW1, SENW2, SWNE3, NENE4—BM. T14S R44E § 22, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE, NENE1, SENE2, NWNW3—BM. T14S R44E § 23, NWSW, SWNW, SWSW, SESW, SWNW1, NWSW2, SWSW3—BM. T14S R44E § 26, NENW, NESW, NWNW, NWSW, SWNW, SWSW, SENW, SESW, SWSE, NENW1, NWNW1, SENW2, NESW3, SESW4, SWSE4—BM. T14S R44E § 27, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 28, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 29, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 32, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 33, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 34, NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, SESE—BM. T14S R44E § 35 NENE, NENW, NESW, NESE, NWNE, NWNW, NWSW, NWSE, SWNE, SWNW, SWSW, SWSE, SENE, SENW, SESW, NENE1, SESE2, NESE3, SESE4—BM.

Attachment N — DESCRIPTION OF OTHER RIGHTS USED FOR SAME PURPOSE

Notes:

This Attachment added in accordance with Part 1.B.5.f (page 3) of the Idaho Application Form.

PacifiCorp has authority under its Bear Lake Reservoir Decreed Rights to generate power with releases of stored water at each of its down-river power plants. In addition to the Bear Lake Reservoir Decreed Rights, PacifiCorp holds rights identified in Table 12 and Table 13 that authorize PacifiCorp to generate power with natural flow that accrues to the Bear River independent of the release of stored water.

Table 12: PacifiCorp's "Downriver Decreed Rights"

IDWR No.	UDWRi No.	Priority	Rate (cfs)	Volume (AFY)	Purpose	Period of Use	Source	POD(s)	POU	Current Owner	Prior Owner	Basis
PacifiCorp's "Downriver Decreed Rights" (in Dietrich/Kimball Decrees)												
13-0957		12/28/1905	500.00		Power	Year round	Bear River	T10S R40E §1 NE–BM.	Grace Power Plant.	PacifiCorp	UP&L	Dietrich Decree, #8 (not in Kimball Decree)
13-0958		7/6/1908	500.00		Power	Year round	Bear River	T10S R40E §1 NE–BM.	Grace Power Plant.	PacifiCorp	UP&L	Dietrich Decree, #8 (not in Kimball Decree)
13-0962		3/9/1916	1,500.00		Power	Year round	Bear River	T10S R40E §28 NWNW–BM.	Cove Power Plant.	PacifiCorp	UP&L	Dietrich Decree, #12(a) (not in Kimball Decree)
13-0963		3/28/1916		3,997.2	Power from Storage	Year round	Bear River	T10S R40E §28 NWNW–BM.	Cove Power Plant.	PacifiCorp	UP&L	Dietrich Decree, #12(b) (not in Kimball Decree)
13-0967		6/17/1910	1,000.00		Power	Year round	Bear River	T13S R40E §23 NWSE–BM.	Oneida Power Plant.	PacifiCorp	UP&L	Dietrich Decree, #16 (not in Kimball Decree)
13-0968		1/18/1911	1,500.00		Power	Year round	Bear River	T13S R40E §23 NWSE–BM.	Oneida Power Plant.	PacifiCorp	UP&L	Dietrich Decree, #17 (not in Kimball Decree)
13-0976	29-1855	12/1/1903	270.00		Power	Year round	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26–SLBM (via East Side and West Side canals).	Cutler Power Plant (formerly Wheelon).	PacifiCorp	UP&L	Dietrich Decree, #24 Kimball Decree #32
13-0977	29-2146	12/1/1906	135.00		Power	Year round	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26–SLBM (via East Side and West Side canals).	Cutler Power Plant (formerly Wheelon).	PacifiCorp	UP&L	Dietrich Decree, #24 Kimball Decree #32
13-0978	29-2147	12/1/1908	135.00		Power	Year round	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26–SLBM (via East Side and West Side canals).	Cutler Power Plant (formerly Wheelon).	PacifiCorp	UP&L	Dietrich Decree, #24 Kimball Decree #32
13-0979	29-2148	12/12/1912	500.00		Power	Year round	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26–SLBM (via East Side and West Side canals).	Cutler Power Plant (formerly Wheelon).	PacifiCorp	UP&L	Dietrich Decree, #24 Kimball Decree #32
TOTAL			6,040.00	3,997.20								

Table 13: PacifiCorp's "Downriver Undecreed Rights"

IDWR No.	UDWRi No.	Priority	Rate (cfs)	Volume (AFY)	Purpose	Period of Use	Source	POD(s)	POU	Current Owner	Prior Owner	Basis
PacifiCorp's "Downriver Undecreed Rights" (not in Dietrich/Kimball Decrees)												
11-2081		6/12/1922	1,500.00		Power	Year round	Bear River	T9S R41E §17 SWNW—BM.	Soda Power Plant.	PacifiCorp	UP&L	License (1/9/1925)
11-4354		1/1/1922	0.02		Irrigation	4/20 to 9/30	Bear River	T9S R41E §17 NWSENW-BM. Diverted from Soda Reservoir.	1 acre. Lawns adjacent to company homes at Soda Power Plant.	PacifiCorp	UP&L	Statutory claim (11/6/1998)
11-4356		7/8/1933	1.40		Irrigation	4/20 to 9/30	Bear River	T9S R41E §11 NWSENW—BM. Diverted from Soda Reservoir.	642 acres at Soda Springs Golf Course.	PacifiCorp	UP&L	Statutory claim (11/6/1998)
11-4357		1/1/1922	400.00		Power	Year round	Bear River	T9S R41E §17 NWSENW–BM.	Soda Power Plant.	PacifiCorp	UP&L	Statutory claim (11/6/1998)
11-4359		1/1/1922	600.00	16,472.0	Power (600) Power Storage (16,472) Power from Storage (16,472)	Year round Year round Year round	Bear River	T9S R41E §17 SENW–BM.	Soda Power Plant.	PacifiCorp	UP&L	Statutory claim (4/14/1980) (but signed 4/28/1980; one or the other is wrong).
13-4129		1/1/1910	700.00	11,485.0	Power (700) Power Storage (11,485) Power from Storage (11,485)	Year round Year round Year round	Bear River	T13S R40E §23 NWSE–BM.	T13S R40E §26 NWNE.	PacifiCorp	UP&L	Statutory claim (date unknown)
13-4334		6/1/1905	0.01		Irrigation	4/1 - 9/30	Bear River	T10S R40E §1 NESWNE–BM. Pump from Grace Dam forebay.	T10S R40E §1 SWNE. 0.5 acres. Lawn and small pasture next to company house at Grace Power Plant.	PacifiCorp		Statutory claim (11/6/1998)
13-4335		6/1/1905	0.06		Irrigation	4/20 - 9/30	Bear River	T10S R40E §1 NWSWNE–BM. Diverted from penstock.	T10S R40E §21 NESW. 3 acres. Lawn and pasture near Grace Power Plant.	PacifiCorp		Statutory claim (11/6/1998)
13-4338		6/17/1910	0.08		Irrigation	4/20 to 9/30	Bear River	T13S R40E §23 NESWSE–BM. Diverted from Oneida Reservoir.	Lawns near Oneida Power Plant and company homes.	PacifiCorp		Statutory claim (11/6/1998).
13-7688		12/16/1910		900.0	Power	Year round	Bear River	T10S R40E §1 NWNE Lt2–BM. Grace Power Plant	6 acres.	PacifiCorp		Statutory claim (10/13/2006).
13-7701		6/1/1905	0.05		Irrigation (.04) Stockwater (.01)	4/20 to 9/30 Year round	Bear River	T10S R40E §1 NWNE Lt2–BM. Grace Power Plant	6 acres located near Grace Power Plant. 50 cattle or EAU.	PacifiCorp		Statutory claim (5/30/2007).
13-7934		3/9/2015	0.24		Industrial	Year round	Bear River			PacifiCorp		License (4/28/2020)
13-7998		3/28/1916	1.00	2.8	Diversion to Storage (1.0) Fish Propagation Storage (2.8)	Year round Year round	Bear River			PacifiCorp	UP&L	Dietrich Decree, #12(b), thereafter split (not in Kimball Decree)
None	29-1506	12/19/1923	2,500.00	75,000.0	Power	Year round		Cutler Dam: N2450ft E80ft of T13N R2W §26–SLBM.	Cutler Power Plant.	PacifiCorp	UP&L	Certificate 1624
None	29-4364 A77083	5/11/2007	420.00		Power	Year round	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26–SLBM.	Cutler Power Plant.	PacifiCorp		Appropriation (approved by UDWRi 4/3/2008)
TOTAL			3,202.86	28,859.8								

The State of Idaho (through IWRB) holds a minimum lake level water right in Bear Lake, as set out in Table 14 below.

Table 14: Idaho's "Minimum Lake Level Right"

IDWR No.	UDWRi No.	Priority	Rate (cfs)	Volume (AFY)	Purpose	Period of Use	Source	POD(s)	POU	Current Owner	Prior Owner	Basis
Idaho's "Minimum Lake Level Right"												
11-7406	None	5/13/1993	n/a	n/a	Lake Level Maintenance	Year round	Bear Lake	Lifton Pump Station: T15S R44E §16 SWNE–BM	Bear Lake	IWRB		License (8/24/1995)

The States of Idaho and Utah (through IWRB and UDWRe) have filed applications to appropriate water to be stored in the Bear Lake Reservoir, as set out in Table 15. As of this writing, these applications have not been advertised.

Table 15: State Appropriation Applications

IDWR No.	UDWRi No.	Priority	Rate (cfs)	Volume (AFY)	Purpose	Period of Use	Source	POD(s)	POU	Current Owner	Prior Owner	Basis
State Appropriation Applications												
11-7835	None	3/23/2018	2,000.00	400,000.0	Diversion to Storage	10/1 to 7/31	Bear River and Bear Lake Inflows	Lifton Pump Station: T15S R44E §16 NWNE–BM; T15S R44E §16 Lot 2 SWNE–BM.	Various (as described in "Application for Permit - Additional Information")	IWRB & UDWRe		Application to appropriate (filed 3/23/2018)
					Irrigation Storage	1/1 to 12/31						
					Irrigation from Storage	4/20 to 9/30						
					Municipal Storage	1/1 to 12/31						
					Municipal from Storage	1/1 to 12/31						
					Recreation Storage	1/1 to 12/31						
					Aesthetic Storage	1/1 to 12/31						
					Mitigation by Delivery Storage	1/1 to 12/31						
					Mitigation by Delivery from Storage	1/1 to 12/31						
None	A81142	3/23/2018	2,000.00	400,000.0			Bear River and Bear Lake Inflows	Bear Lake Outlet Canal; Outlet Canal Gate; Rainbow Canal Inlet; Stewart Dam; Bear Lake Inlet.	Described generally in the Utah Appropriation Application.	UDWRe & IDWR		Application to appropriate (filed 3/23/2018)
TOTAL			2,000.00	400,000.0								

Table 16: Sugar Company non-lapsed decreed Bear River rights

IDWR No.	UDWRi No.	Priority	Rate (cfs)	Volume (AFY)	Purpose	Period of Use	Source	POD(s)	POU	Current Owner	Prior Owner	Basis
Sugar Company non-lapsed decreed Bear River rights (in Dietrich/Kimball Decrees)												
13-0980	29-2856	3/1/1889	333.00		Irrigation	4/20 to 9/30	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26--SLBM (via West Side canal).	38,230 acres via West Side canal.	BRCC	UT-ID Sugar Co.	Dietrich Decree, #25(a) Kimball Decree, #33(a)
13-0981	29-2857	5/14/1901	133.00		Irrigation	4/20 to 9/30	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26--SLBM (via West Side canal).	38,230 acres via West Side canal.	BRCC	UT-ID Sugar Co.	Dietrich Decree, #25(a) Kimball Decree, #33(a)
13-0982	29-2858	5/1/1914	43.00		Irrigation	4/20 to 9/30	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26--SLBM (via West Side canal).	38,230 acres via West Side canal.	BRCC	UT-ID Sugar Co.	Dietrich Decree, #25(a) Kimball Decree, #33(a)
11-0289	29-2633	6/1/1904	95.00		Irrigation	4/20 to 9/30	Bear River	Cutler Dam: N2450ft E80ft of T13N R2W §26--SLBM (via East Side canal).	7,100 acres via East Side canal.	BRCC (Decreed in Utah gen. adj. to Bear River Water Distribution Company)	UT-ID Sugar Co.	Dietrich Decree, #25(b) Kimball Decree, #33(b)
TOTAL			604.00									

Table 17: Rights issued to BRCC to replace lapsed Sugar Company right

IDWR No.	UDWRi No.	Priority	Rate (cfs)	Volume (AFY)	Purpose	Period of Use	Source	POD(s)	POU	Current Owner	Prior Owner	Basis
Rights issued ot BRCC to replace lapsed Sugar Company rights												
None	29-2725	4/22/1981	50.00	11,594.5	Irrigation	4/1 to 10/31	Bear River	Cutler Dam: N2260ft E125ft of SE of T13N R2W §26–SLBM		BRCC		Appropriation
None	29-3321	6/11/1987	300.00	72,124.6	Irrigation	4/1 to 10/31	Bear River	Cutler Dam: N2260ft E125ft of SE of T13N R2W §26–SLBM		BRCC		Appropriation
TOTAL			350.00									

Note re Table 16 and Table 17 above:

Pursuant to the Sugar Company Agreement (discussed in Attachment B, section IV.A on page 27), PacifiCorp is obligated to provide a specified quantity of water (900 cfs or 150 cfs depending on the season) to BRCC (the successor in interest to the Sugar Company) to the extent BRCC's water supply from all other sources is less than that quantity. If necessary to meet this obligation, PacifiCorp would be required to release water diverted and stored under the Bear Lake Reservoir Decreed Rights. Given this interaction between the Bear Lake Reservoir Decreed Rights and rights that are held by BRCC, certain rights of the BRCC are listed above. Table 16 below sets out rights decreed to the Sugar Company in the Dietrich and Kimball Decrees which have not since lapsed. Table 17 below sets out rights issued to BRCC by UDWRi to replace a lapsed decreed right. In addition to rights set out in Table 16 and Table 17, BRCC owns other Utah water rights and applications for rights used to divert water from the Bear River, which were not decreed in (or replacements for rights decreed in) the Dietrich and Kimball Decrees.

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Attachment O MITIGATION PLAN

Note:

IDWR's guidance appears to require the submission of a mitigation plan at the time of application. Accordingly, the Mitigation Plan (in the form of a memorandum from SPF Water Engineering) is set out below as part of the ITAP.

SPF WATER ENGINEERING



MEMORANDUM

DATE: November 16, 2021

TO: Chris Meyer and Mike Lawrence

FROM: Terry Scanlan, P.E., P.G.

RE: Proposed Mitigation Plan for PacifiCorp Dry Canyon Pumped Storage Project

Background. PacifiCorp's Dry Canyon pumped storage project is planned to create a lined Upper Reservoir with 182 acres of surface area and 3150 acre feet of dead storage located east of Mud Lake and a Lower Reservoir within Mud Lake with 1390 acres of surface area. The footprint of the Lower Reservoir will be within current open water or wetlands portions of Mud Lake Regulation Reservoir.

The Idaho Transfer Application Package (ITAP) addressees the issue of whether a Mitigation Plan is required for the project's water use. If the Idaho Department of Water Resources (IDWR) determines that mitigation is required, potential mitigation requirements include the on-going evaporative losses resulting from the project and/or the depletion resulting from initial fill of inactive Upper Reservoir storage space. Seepage from the project's reservoirs will be minimal because the Upper Reservoir will be lined and the Lower Reservoir will be in the existing Mud Lake. In any case, any seepage need not be mitigated because it will return to Mud Lake.

This memo discusses determination of potential mitigation requirements and presents a proposed mitigation plan to the extent one is required by IDWR. This proposed Mitigation Plan is limited to addressing down-river impacts to other water rights. Bear Lake elevation effects, if any, are addressed in the ITAP.

Procedures for Depletion Estimates. The Bear River Commission first established procedures for depletion estimates in 1993 for purposes of allocating water between the three states in the Bear River Compact. These procedures were revised in 2012, 2014, and most recently in April 2016[1]. Reservoir evaporation is addressed on page 6 of the 2016 revision as follows.

[1] http://www.bearrivercommission.org/docs/Procedures%20for%20Depletion%20Estimates%202.pdf

300 E. Mallard Drive, Suite 350, Boise, Idaho 83706 Tel: 208-383-4140 Fax: 208-383-4156

> *E. Reservoir Evaporation There will be an accounting for any change in net evaporation as a result of increased storage. Any decrease in evaporation from reservoir abandonment or reduced storage may be banked. Evapotranspiration from inundated lands may also be included in determining net evaporation at the storage site. The state accounting for the net evaporation change will use acceptable procedures, and those procedures will be reported to the Commission.*

Appendix B of the 2016 revision provides estimated depletions for irrigated lands in various subbasins within the Bear River Basin.

Although the procedures for depletion estimates do not directly address mitigation, they should probably be considered when developing a mitigation plan. The procedures are not in conflict with Idaho policies for mitigation plans, except that Idaho often will require a determination of the historical use of the particular water rights proposed as mitigation, typically based on crop records, rather than an assumption based on a subbasin average.

IDWR's procedures for mitigation of new groundwater appropriations in the Bear River Basin in Idaho, as described by the February 24, 2003 Management Plan for the Bear River Ground Water Management Area (Management Plan[2]), provide additional guidance. Although not directly applicable to mitigation for a surface water use associated with a transfer application, the procedures allow (1) mitigation to address injury on a case-by-case basis or (2) mitigation using a "simplified method". A mitigation plan using the Management Plan's simplified method (Section F.4[3]) shall include:

> *A calculation of the average annual depletion expected from diversion and use of water for the project proposed in the application. The depletion estimate shall be calculated using: (1) the procedures adopted by the Bear River Commission if the use is for irrigation; (2) the Department's "Dairy Spreadsheet" if the use is for dairy; and (3) a procedure using the methods set out in "Procedures for Estimating Depletion in the Lower Bear River Basin in Idaho" by Robert W. Hill, a draft dated January 7, 1998, or a similar procedure acceptable to the Department, if the use is for DCMI or other uses.*

Regardless of whether mitigation is provided using the simplified method or case-by-case, Section G.2 of the Management Plan states:

> *The annual volume of water made available from the water right offered for mitigation to augment the flow of Bear River shall equal or exceed the annual volume of depletion resulting from diversion and use of ground water sought under the application. The*

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[2] https://idwr.idaho.gov/files/groundwater-mgmt/bear-river-management-plan-20030224.pdf

[3] Due to what appears to be formatting problem, there is no subsection to Section F labeled "3" and there are two labeled "4." It is assumed that the first subsection "4" actually should be labeled "3" and that references to subsection "3" in the document actually refer to the first subsection "4"."

> *annual volume of depletion made available from the natural flow right used for mitigation shall be calculated using depletion rates as described in section F3a, taking into consideration the availability of water under the priority of the water right, the existence and use of other water rights and water supplies for the same beneficial use, and other factors influencing the historic use of water under the right.*

The Management Plan procedures provide flexibility for determination of both the depletion volume from the new water uses and the historical depletion volume from the proposed mitigation water right. Either the Hill method or a "similar procedure" can be used.

Consumptive Use Determination in Idaho. The Hill procedure[4] is commonly used for mitigation calculations in the Bear River basin. It is simple to use, but lists depletion values for a limited number of crop types or open water systems. It does not provide depletion values for deep lakes or reservoirs.

For determination of consumptive use from crops and open water surfaces elsewhere in Idaho, IDWR typically relies on values available from the University of Idaho's ET Idaho website.[5] ET Idaho provides values for consumptive use for a variety of crop types and open water surfaces based on climatic data for weather stations throughout the state.

ET Idaho provides statistics on six types of water consumption parameters.

1. actual evapotranspiration;
2. potential evapotranspiration;
3. basal evapotranspiration;
4. precipitation deficit (i.e., net irrigation water requirement);
5. effective precipitation (within the root zone) used for supporting transpiration and evaporation;
6. effective precipitation (within the root zone) used only for transpiration.

Consumptive use from open water is equal to total evaporation minus precipitation (i.e., net evaporation). ET Idaho represents net evaporation from open water as the precipitation deficit.

For each weather station site, ET Idaho lists consumption parameters for the following open-water and wetland scenarios:

- Deep systems (lakes/reservoirs)
- Shallow systems (ponds/streams)
- Wetlands (large stands)
- Wetlands (narrow stands)

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[4] The most current version of procedure that I have located is dated January 27, 2003. https://digital.lib.usu.edu/digital/collection/Bear/id/24928

[5] http://data.kimberly.uidaho.edu/ETIdaho/

In determining consumptive use, IDWR typically relies on consumption parameters for the closest ET Idaho site to the place of use. In this instance, the closest site is the Lifton Pumping Station, located at the outlet of Bear Lake, directly adjacent to Mud Lake. Table 1 lists precipitation deficit values for Lifton Pumping Station.

Table 1 - Monthly and Annual Mean Precipitation Deficits for Lifton Pumping Station

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Growing Season	Non-Growing Seeson	Annual	Annual
	mm/day												mm			feet
Wetlands - large stands	-0.34	-0.34	0.03	0.09	-0.09	2.03	5.33	5.52	2.8	0.02	-0.33	-0.35	489	-46	443	1.45
Wetlands - narrow stands	-0.34	-0.34	0.03	0.09	-0.08	2.7	7.71	8.14	4.26	0.17	-0.33	-0.35	713	-47	666	2.19
Open water - shallow systems (ponds/streams)	-0.19	-0.08	0.6	1.18	1.37	2.94	3.39	2.89	1.75	0.65	0.03	-0.19	439	0	439	1.44
Open water - deep systems (lakes/reservoirs)	-0.32	-0.44	-0.22	-0.19	-0.47	0.65	0.95	0.87	0.38	0.12	-0.07	-0.23	33	0	33	0.11

The appropriate parameter to estimate net evaporation from the proposed Upper Reservoir is precipitation deficit for open water deep systems. Deep systems are generally considered to be larger water bodies with average depths of more than approximately 4 meters (13 feet). The Upper Reservoir falls into that category.

The Upper Reservoir is assumed to function as a deep-water system whether nearly empty (inactive storage) or full, but the surface area will change according to the volume of water stored. If the reservoir is full year-round (which it will not be due to the pumped storage project's operations), the annual net evaporation would be 20.0 acre feet (182 acres x 0.11 afa/ac).

The appropriate parameter to estimate net evaporation from the proposed Lower Reservoir is unclear. Depending on the configuration of the Lower Reservoir, the appropriate parameters could be a mix of precipitation deficit for open water deep systems, open water shallow systems, wetlands (large stands), and wetlands (narrow stands). Table 1 shows that large wetlands and shallow open water systems have similar precipitation deficits of approximately 1.4 feet per year while deep water systems have much smaller precipitation deficits of only 0.11 feet (1.3 inches) per year.

Mud Lake can be considered to be a mix of large stand wetland and shallow open water. The Lower Reservoir, constructed within the open water footprint of Mud Lake Regulation Reservoir, will likely range from shallow to deep open water, depending on whether the Lower Reservoir is closer to empty or closer to full; when less than 4 meters deep, it will evaporate more like a shallow system but when deeper than 4 meters, it will evaporate more like a deep system. To the extent the characteristics of the Lower Reservoir reflect deep water, the annual evaporative loss from the Lower Reservoir will be decreased compared to existing conditions of shallow water and wetlands. In addition, dikes around the Lower Reservoir will decrease the existing wetland and open-water area of Mud Lake Regulation Reservoir, thereby further decreasing evapotranspiration.

Mitigation of Evaporative Losses. Assuming a worst-case (i.e., most evaporative) scenario of the Upper Reservoir being full on a year-round basis, and the Lower Reservoir being near

empty on a year-round basis (i.e., effectively unchanged from the existing shallow open water and wetlands conditions), and assuming no credit for decreased evapotranspiration resulting from diking within Mud Lake, the only increased consumptive use would result from evaporation at the Upper Reservoir, which is calculated to be 20.0 acre-feet per year using the ET Idaho precipitation deficit data. No additional consumptive use will occur at the Lower Reservoir when it is full because changing from the current conditions (shallow water and wetlands) to deep open water would result in a net decrease in consumptive use.

Mitigation of this additional consumptive use could be accomplished by retiring irrigation from irrigated land with historical consumptive use of 20.0 acre feet or more supplied by storage from Bear Lake or from natural flow.

PacifCorp holds water rights for irrigation of lands within Utah's Cache Valley. Using the 1.34 af/ac value for Cache Valley subbasin in Appendix B of the Bear River Commission's 2016 Procedures for Depletion Estimates, mitigation for 20.0 acre feet of annual consumption could be accomplished by retirement of 14.9 acres of irrigation (i.e., 20.0 af / 1.34 af/ac = 14.9 acres).

Mitigation of Initial Fill. The Upper Reservoir has a total storage volume of 26,880 acre feet, of which 23,730 acre feet is active storage and 3150 acre feet is inactive (dead) storage. The Lower Reservoir will have the same active storage, and 4170 acre feet of inactive storage which already is held within the existing Mud Lake Regulation Reservoir.

The initial fill of active storage capacity in both the Upper and Lower Reservoir will be accomplished by pumping water from Mud Lake Regulation Reservoir to the Upper Reservoir until it fills and then closing the gates of impounding dikes surrounding the Lower Reservoir, thus creating a closed-loop between the two reservoirs. The Mud Lake Regulation Reservoir is part of Bear Lake Reservoir under PacifiCorp's decreed water rights. In other words, initial fill of active storage capacity in the Upper and Lower Reservoir will be accomplished with water already stored under PacifiCorp's decreed water rights. Also, in contrast to the initial fill of inactive storage (discussed below), the water used to fill the active storage may be released to Mud Lake and on to downstream users at any time by opening the gates of impounding dikes surrounding the Lower Reservoir. It will remain legally and physically available to meet any downstream obligation. Accordingly, this initial fill will not result in injury to downstream users and need not be mitigated.[6]

[6] As a practical matter, it is highly unlikely that it would ever be necessary to release water from storage in the Upper or Lower Reservoir in order to meet PacifiCorp's obligations to downstream users. Instead, as it is now, water will be released from Bear Lake for that purpose. The additional water held in active storage and inactive storage in the Upper or Lower Reservoirs will have a small but measureable impact on lake levels in Bear Lake. PacifiCorp need not mitigate for these lake level impacts because no storage water rights in Bear Lake will be injured. PacifiCorp, however, does address lake level impacts in the ITAP.

The 3150 acre feet of inactive storage in the Upper Reservoir will be filled permanently. Arguably no mitigation is needed for this because PacifiCorp's water rights authorize the diversion of the entire Bear River without any volume limitation and the Upper Reservoir's inactive storage is a component of the rights' authorized power generation use. On the other hand, if IDWR determines that mitigation is required because this volume will result in a depletion to the outflow from Bear Lake and Mud Lake, such mitigation would only be necessary in a dry year.

In a year with sufficient spring runoff to completely fill Bear Lake and Mud Lake, PacifiCorp could fill the initial storage with additional runoff that it would otherwise have to release downstream because PacifiCorp's water rights authorize the diversion of the entire Bear River into storage with no volume limitation. No mitigation for initial fill would be required in such a case because PacifiCorp is not required to release that additional water downstream.

However, Bear Lake and Mud Lake do not completely fill in most years, in which case the initial fill of inactive storage would reduce the amount of water stored in Bear Lake and potentially available to downstream users. If mitigation is required in this scenario, the one-time filling of 3150 acre feet of inactive storage can be mitigated through a long-term dry up of irrigated lands in the Cache Valley. Using the 1.34 af/ac depletion value for the Cache Valley subbasin, 3150 acre feet of mitigation will require a one-year dry up of 2351 acres (3150 af / 1.34 af/ac = 2350.7 acres). This magnitude of reduction in irrigation in a single year might not be practical, and it is unlikely to be in the public interest. Instead, because Bear Lake storage rarely fills, the irrigation reduction could be staged over many years to ultimately reduce the number of acres that must dried up. For example, a 20-year dry up of 117.5 acres, or a 10-year dry up of 235 acres, would provide the 3150 acre feet of mitigation volume.

Conclusions Regarding Mitigation Requirements

1. Mitigation may not be necessary because PacifiCorp's water rights authorize the diversion of the entire Bear River without any volume limitation. In other words, the Project's depletions already may be authorized under PacifiCorp's existing rights.

2. If mitigation is required for increased annual consumption resulting from the Upper Reservoir, it should be based on net evaporation from deep water systems using ET Idaho data. A conservative approach (i.e., resulting in the greatest consumptive use) is to assume that the project will add 182 acres of annual deep-water system evaporation. Deep-water system evaporation is 0.11 feet using the standard evaporation methodology for Idaho. As a result, the annual mitigation for consumption from 182 acres of deep water is 20.0 acre feet.

3. If mitigation is required for initial fill of inactive storage space in the Upper Reservoir, which will result in a one-time depletion to the water volume ultimately leaving Bear Lake, it would only have to be mitigated in years when there is insufficient spring runoff to completely fill Bear Lake and Mud Lake and additional storage in the Upper Reservoir. This 3150 acre-foot volume can be mitigated over multiple years.

4. Initial fill of active storage in the Lower Reservoir will be accomplished using water already in Mud Lake Regulation Reservoir. No mitigation would be needed for this volume. Fill and refill of active storage space in the Upper Reservoir will temporarily deplete existing storage in the Lower Reservoir which will then be refilled during power generation cycles. This water may be released to Mud Lake and on to downstream users at any time. It will remain legally and physically available to meet any downstream obligation, and therefore could not result in injury to downstream users and need not be mitigated.

5. If mitigation is required, PacifiCorp proposes to mitigate by retiring irrigated lands in the Cache Valley. One acre of irrigation in the Cache Valley subbasin is assumed to have 1.34 feet of annual consumptive use for purposes of mitigation.

6. The 20.0 acre feet of annual consumption in the Upper Reservoir (by evaporation) could be mitigated by a permanent retirement of irrigation on 14.9 acres in the Cache Valley.

7. The 3150 acre-foot initial fill of Upper Reservoir inactive storage space could be mitigated by a 1-year retirement of irrigation on 2351 acres, a 20-year retirement of irrigation on 117.5 acres, or a 10-year retirement of irrigation on 235 acres. The acres for retirement are controlled by PacifiCorp and located in the Cache Valley.

Proposed Mitigation Plan if Mitigation is Required

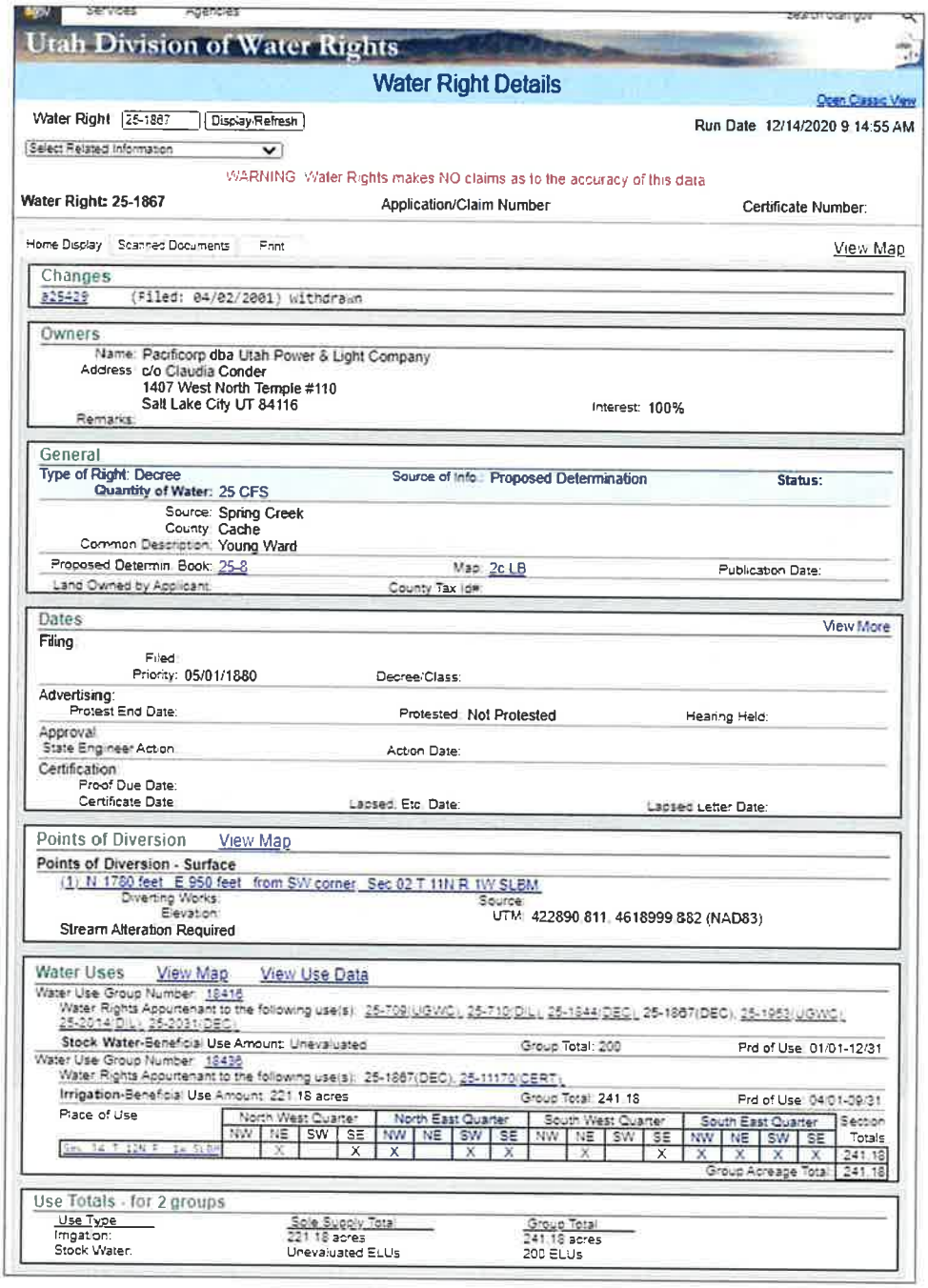
PacifiCorp owns water right 25-1867 authorizing irrigation of 241.18 acres with an 1880 priority date. The place of use is located approximately 5 miles west of Logan. The source of water is Spring Creek, a tributary of the Little Bear River. The water right is deliverable for the entirety of each irrigation season.

If mitigation is required, PacifiCorp proposes to mitigate consumption from the Upper Reservoir project by (1) a permanent 14.9-acre retirement of irrigation under water right 25-1867 to offset annual evaporation loss and/or (2) a temporary retirement of additional acres under water right 25-1867 to offset the initial fill of inactive storage space. The 25-1867 place of use and details are provided in Figure 1. The precise acres proposed for retirement will be identified later in the application process if mitigation is required. If all 241.18 acres under the water right are used for mitigation, and 14.9 acres are dedicated to annual mitigation for evaporative losses, mitigation for initial fill will be accomplished in 10.4 years. Alternatively, a smaller number of acres could be used for mitigation, resulting in longer period to mitigate the initial fill.

If mitigation is required, it will be accomplished through non-diversion from Spring Creek or through diversion and delivery back to the Little Bear River. The water that is not diverted will flow downstream on Spring Creek, into the Little Bear River, and ultimately into Cutler Reservoir on the Bear River for users downstream. The water right is authorized with a delivery volume of 3 acre feet per acre. This additional water supply will offset reduced discharge from Bear Lake reservoir that is required by users downstream of Cutler Reservoir.



Figure 1. Place of use for mitigation water right 25-1867



Utah Division of Water Rights

Water Right Details

Open Classic View

Water Right 25-1867 Display/Refresh

Run Date 12/14/2020 9:14:55 AM

Select Related Information

WARNING: Water Rights makes NO claims as to the accuracy of this data

Water Right: 25-1867 Application/Claim Number: Certificate Number:

Home Display | Scanned Documents | Print | View Map

Changes

a25429 (Filed: 04/02/2001) Withdrawn

Owners

Name: Pacificorp dba Utah Power & Light Company
Address: c/o Claudia Conder
1407 West North Temple #110
Salt Lake City UT 84116
Interest: 100%
Remarks:

General

Type of Right: Decree Source of Info.: Proposed Determination Status:
Quantity of Water: 25 CFS
Source: Spring Creek
County: Cache
Common Description: Young Ward
Proposed Determin. Book: 25-8 Map: 2c LB Publication Date:
Land Owned by Applicant: County Tax Id#:

Dates View More

Filing
Filed:
Priority: 05/01/1880 Decree/Class:
Advertising:
Protest End Date: Protested: Not Protested Hearing Held:
Approval:
State Engineer Action: Action Date:
Certification:
Proof Due Date:
Certificate Date: Lapsed, Etc. Date: Lapsed Letter Date:

Points of Diversion View Map

Points of Diversion - Surface
(1) N 1780 feet E 950 feet from SW corner Sec 02 T 11N R 1W SLBM
Diverting Works:
Elevation:
Source:
UTM: 422890.811, 4618999.882 (NAD83)
Stream Alteration Required

Water Uses View Map View Use Data

Water Use Group Number: 18416
Water Rights Appurtenant to the following use(s): 25-709(UGWC), 25-710(DILL), 25-1844(DEC), 25-1867(DEC), 25-1953(UGWC), 25-2014(DILL), 25-2031(DEC),
Stock Water-Beneficial Use Amount: Unevaluated Group Total: 200 Prd of Use: 01/01-12/31
Water Use Group Number: 18436
Water Rights Appurtenant to the following use(s): 25-1867(DEC), 25-11170(CERT),
Irrigation-Beneficial Use Amount: 221.18 acres Group Total: 241.18 Prd of Use: 04/01-09/31
Place of Use

	North West Quarter				North East Quarter				South West Quarter				South East Quarter				Section
	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	NW	NE	SW	SE	Totals
Sec 14 T 12N R 1W SLBM		X		X	X		X	X		X		X	X	X	X	X	241.18
																Group Acreage Total:	241.18

Use Totals - for 2 groups

Use Type	Sole Supply Total	Group Total
Irrigation:	221.18 acres	241.18 acres
Stock Water:	Unevaluated ELUs	200 ELUs

Figure 2. Mitigation water right details.

Attachment P PACIFICORP CONTACT INFORMATION

PacifiCorp's key contact information is set out below. Please include all four of these people on the service list. PacifiCorp will inform IDWR, UDWRi, and all parties to these proceedings of any changes in this contact information.

PacifiCorp

Mark Sturtevant
Vice President, Renewable Resources
PacifiCorp Energy
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Utah Water Counsel

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175 S Main, Ste 1330
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Idaho Water Counsel

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Boise, ID 83702
chrismeyer@givenspursley.com
Office: 208-388-1236

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Attachment Q DIETRICH DECREE

Notes:

This Attachment includes the operative provisions (pages 1-24 and 113-117) of the Dietrich Decree (*Utah Power & Light Co. v. Last Chance Canal Co.*, Final Decree, Fed. Dist. Ct., D. Idaho (July 14, 1920) (Dietrich, J.) (unreported)).

Pages 25-112 of the Schedule of Rights are omitted from this Attachment because they describe rights that have no connection with PacifiCorp. A copy of the full decree may be found online at www.bearrivercommission.org (under "documents" / "miscellaneous.").

In the District Court of the United States for the District of Idaho, Eastern Division.

UTAH POWER & LIGHT COMPANY,
Plaintiff
vs.
THE LAST CHANCE CANAL COMPANY, Limited, et. al.
Defendants.

In Equity No. 203.

FINAL DECREE

Before HON. F. S. DIETRICH,
District Judge.

Filed July 14, 1920.

W. D. McREYNOLDS,
Clerk.

By PEARL ZANGER,
Deputy.

In Equity No. 203

In the District Court of the United States
for the District of Idaho, Eastern Division

UTAH POWER & LIGHT COMPANY, a Corporation, *Plaintiff*,

vs.

The Last Chance Canal Company, Limited; The Tanner Canal Company, Limited; The Central Canal Company, The North Extension Canal Company, Limited; West Branch Canal Company, Limited; The Turner Canal Company, Limited; The East Branch Canal Company, The Bench Canal, and Budge Land & Live Stock Company, Limited, corporations; W. H. Larkins, Jas. Ellsmore, Geo. Hogan, Lewis S. Pond and Alex Harris as Trustees of the Gentile Valley Irrigation Company, Limited, late a corporation; The Thatcher Irrigation Company, Limited, a corporation; Nathan D. Thatcher, J. A. Folkman, Milton Robbins and Geo. M. Smith, as Trustees of Thatcher Canal & Power Company, Limited, late a corporation; Nelson Ditch Company, a corporation; A. J. Nielson, B. R. Meek, Henry McCuen, C. S. Burton and Eli Fosgreen, as Trustees of Riverdale-Preston Irrigation Company, late a corporation; The Riverdale Irrigating Company, Nielson-Meek Company and West Cache Irrigation Company, corporations; E. P. Johnson, Albert Johnson, Hyrum Johnson, Geo. D. Anderson, Joseph T. Pond, Frank W. Harris, A. C. Bosen, Hyrum J. Smith, John E. Hill, Melvin Green, Robert L. Smith, Charles Westerburg, Peter Westerburg and David P. Evans.

Horace Howard, Henry Rhinehart, Harvey W. Higley, James Monroe (or Munro), Nellie Simmons, John Baird, William Monroe (or Munro), Orrin Monroe (or Munro), Charles Monroe (or Munro), Charles Foster, Hyrum Foster, Mary Baird, John Woodall (or J. D. Woodall), George Ellis, Skinner Irrigation Company, a corporation; Heber Crane, Fred Bartschi, Charles Bartschi, David Chugg, Phillip Chugg, Fred Stauffer, William Williams, Sr. (or William Morgan Williams), William Williams, Jr. (or William Mormon Williams), Oliver Williams, E. M. Lindsay, Georgetown Irrigation Company, a corporation, and Thomas Freeman.

Idaho Ranch Company, Limited, The Banks Investment Company, and Farmers Land and Irrigation Company of Alexander, Idaho, Limited, corporations; Frank Higgenbotham, as Statutory Trustee of Cache Valley Land & Canal Company, late a corporation; S. E. Marshall and W. W. Booth as Trustees of The Bancroft Land and Irrigation Company, late a corporation; James M. Horsley, Matilda J. Horsley, Newell J. Horsley and A. L. Cook, as Trustees of Soda Springs Electric Company, late a corporation; D. J. Lau, H. M. Lau, D. K. McLean, and W. M. Davis, as Trustees of Soda Springs Water Company, late a corporation; Soda Springs, a Municipal Corporation; Thomas H. Horsley, Joseph E. Lau, John G. Schmidt, Laura M. Lau, Colin A. Chester, Chris A. Lallathin, Walter S. Crane, Lorenzo S. Merriott (or Marriott), Hiram M. Lau, Daniel J. Lau, Arthur F. Lau, William J. Hopkins, Ellis Kackley, Ida M. Kackley, Mary E. Kelly (now Mary E. Corrigan), Herbert Horsley, A. C. Anderson (or Abraham C. Anderson), David Anderson, Nels Anderson, Landi C. Eastman, J. T. Torgenson, John Skinner, Clifford M. Reed, E. D. Whitman, C. B. Wilson, David Burnett, David Giles, George Jenkins and Thomas L. Clark.

Hans Nielson, James Strachan, Edmond Beus, Geo. A. L. Williams, Leland S. Williams, Leah Gorton, John Lauritson, Jesse Moore, Arthur Collins, James Moore, C. W. Fryar, Augustine (or Augusta) Rolando, James Rolando, Geo. G. Nelson, August Largilliere, Catherine Largilliere and Harry Horsley; Turner Trust Company, a corporation; Percy G. Turner, Ethel H. Ellsmore, John W. Harris, Alexander Wells Harris (or A. W.) Harris, Joseph L. Hansen, Louisa (or Louise) Medford, David P. (or David) Sant, Leonard Hansen, W. H. Larkins, Dora Larkins, Otto Gulbransen, H. E. Thatcher, Joseph Swenson, Charles Lund, W. J. Turner, John Harrington, Lewis S. Pond, R. E. Hansen, Walter Hogan, George M. Smith, Ira Hogan, Geo. A. Hogan, Amelia Cole, W. S. Cole, Wm. Fowler, James Calkins, Peter Patterson, Ellsworth Norris, Walter Anderson, R. N. Egbert, Charles Izatt, Minnie Walker, Samuel Bollwinkle, C. J. Martinson, J. B. Wagentz, Rosa Martinson, Nathan D. Thatcher, J. Leroy Pond, Geo. B. Folkman, Chas. A. Robbins, Norena B. Robbins and Rachel S. Thatcher.

Benjamin Clegg, Charles Sorenson, William McGee Harris, Nels L. Sorenson, Lars P. Hansen, Charles H. Bassett, Wm. Bassett, Hyrum D. Collins, Joseph Swenson, Harriet Harris, Chris Christiansen, James Fowler, Catherine Sorenson, E. L. Bennett, Wm. Wright, Joseph B. Wright, Mary Bassett, Wm. Meacham, John Meacham, Peter Anderson, John Sorenson, James C. Elliott, Don H. Bassett, Thomas M. Ellis, Charles N. Ellis, Anna J. Clegg, Merintha E. Han-

son, Anna M. Fowler, Henry C. Christenson, Daniel C. Moorehead, Milton A. Rodeback, Calvin W. Bennett, A. A. Ruud, Charles Hubbard, George Hultz, John C. Sorensen, Leo Bennett, Howard Rodeback, Ed. Meachem, Thomas Redford and Esther Peterson.

James Swenson, Hyrum Swenson, Jos. O. Renshaw (or Joseph Olorenshaw), Hans J. Rasmussen, L. K. Bitten, Wm. H. Mendenhall, John R. Turner, J. W. Gibbs, Robt. Kirkham, Melissa Collins, Harold L. Bassett, Geo. C. Fowler, Michael Mickelson, Carston Bennett, Thomas Bennett and Lars Rasmussen; First National Bank of Logan, a corporation; Leslie Wright, E. A. Bennett, J. P. Anderson, Wm. W. Williams, Austin W. Merrill, H. J. Bennett, Matilda Bennett, Alfred (or Alpheus) Anderson, Leslie Bennett, Frank Manning, L. M. Wright, Howard L. Thomas, Thomas Panter, Alma S. Stalker, John T. Williams, Daniel Harris, Joseph Ames, Hyrum Foreman, Henry Perry, Andrew B. Gray, Joseph Perry, Jr., Sardius S. Stalker, Zina B. Cannon, Austin Pond (or L. Austin Pond), Charles Panter, Charles E. Harris, Ralph Perry, Geo. B. Collins, James D. McGregor, Jr., Wm. C. McGregor, James D. McGregor, Isabelle E. Foreman, Joseph Christensen, John Tanner, Parley Anderson, Rebecca Orrison, H. K. Thatcher, Howard E. Thatcher, B. Geo. White, Orison Thompson, Barnard G. (or Barnard J.) White and John D. Schutt.

Treasureton Irrigation Ditch Company, a corporation; William Smith, Byrum H. Prescott, George R. Ransome and A. C. Nance, as Trustees of Cleveland Irrigation Company, late a corporation; L. Edgar Merrill, James A. Hadley, R. G. Quigley, Alma Hadley, O. E. Hendricks, Heber Allen, James S. Geddes, Daniel Taylor, and John W. Hendricks, as Trustees of Stockton Reservoir Company, late a corporation; Charlotte Walton, Samuel Ames, D. M. Walton, Wm. Smith, Edwin Bennion, A. H. Rencher, J. L. Rencher, Leo Meachem, Ely Beckstead, Byrum H. Prescott, George Ransome, Isabel Ames, H. A. Ransome, Thomas Waddoups and Annie E. Cardon; Mink Creek Irrigation Company, District Number One, a corporation; James Johnson, David P. Evans, Cyrus Ward, Eugene Beckstead and J. G. Nelson, as Trustees of Preston-Riverdale and Mink Creek Canal Company, late a corporation; The Peoples Dairy Company, Limited, a corporation; James M. Keller, Thomas Jensen, Elmer Larsen, Ezra Larsen, Torval Wilde, Peter W. Peterson, Fred Barfus, S. H. Richards, Ivan Rasmussen, Mahonri Larsen, L. P. Larsen, Marinus Jepsen, F. H. Wacker, Lorenzo D. Baird, Annie L. Potter (nee Peterson), J. P. Rasmussen, Richard Olverson, Christina V. Wilde, John C. Hansen, Andrew Jepsen, Nels P. Roholt, Lars W. Nelson, Edw. Balfour, J. S. Hite, Mrs. Hans L. Nelson,

John C. Christensen, W. A. Watson, Lars C. Nelson, Martinus Larson, Ingrid Pearson, Leonard Nelson, C. G. Christiansen, Gus Olson, W. E. Crane, Hyrum Bell and Janeus Keller; Joseph Condie, William Schulbert, Jedediah Miles, Francis Clayton and Norman Nisson, as Trustees of Strong Arm Reservoir Company, late a corporation; Thos. R. Condie, Francis Clayton, Thomas Palmer, Wm. H. Carter, O. M. Seamons, Benj. Hymas, Philip Purcer, W. R. Taylor, Ezra C. Foss, Julius Johnson, Joshua Adams, Geo. Sant, Eliza A. Seamons and David Williams.

William E. Larsen, Thomas Sant, William McDermott, Oscar Maddox, and Mae E. Farmer, as Trustees of Clifton Irrigating Company, late a corporation; Rushville Irrigation Company, a corporation; S. H. Atkinson and James Atkinson; Five Mile Creek Irrigation Company, a corporation; L. M. Mendenhall, Willis Mendenhall, S. C. Chadwick and Robert C. Geddes.

Weston Creek Irrigation Company, a corporation; Isaac Jorgensen, George Cole and Thomas Preston, as Trustees of Weston Mills, late a corporation, N. P. Jensen, Yeppa Benson, Frederick Day, Peter Mickelson, and Joseph Georgensen, as Trustees of Weston Reservoir and Power Company, late a corporation; and Isaac McKay; Utah-Idaho Sugar Company, a corporation; Capital Trust Company; Largilliere Company, Bankers; Continental Life Insurance Company, Idaho State Life Insurance Company, Devereaux Mortgage Company, Peabody, Houghteling & Company, National Bank of the Republic, Utah Mortgage Loan Corporation, Peoples Bank & Trust Company, Illinois Trust & Savings Bank, American Trust & Savings Bank (now Continental and Commercial Trust & Savings Bank), and J. N. Ireland & Company, corporations; Jerome W. Wheeler, George I. McFarland, R. T. Hayes, J. P. Toone, Amy L. Toone, Daniel Balls, William O. Creer, and H. D. Maughan.

Sam Gillett, Thorg Johnson, Enoch Johnson, Thomas E. Stanton, Christian Call, Ira Call, Mrs. Freda Anderson, H. C. Atkinson, Fred Baker, Daniel Balls, Kenneth Balls, Minnie Barnard, John Bartlome, Battle Creek Irrigation Company, a corporation; Wm. Behle, Conrad Bell, C. W. Bennett, Chas. Bergquist, Edw. Bergquist, James Bigler, Birch Creek Irrigation Company Number One, a corporation (substituted for and successor in interest to the following: Frederick Barfus, James Keller, Amos Keller, Torval Keller, Ezra Larsen, Marinus Jepson, Elmer Larsen, Norman J. Larson, Walter Nelson, Ervan Larsen, Maren K. Peterson, Marinus Hansen, Elias Hansen, Hyrum Jepson, John M. Hansen, L. B. Wilde, Peter Nelson, Nancy Rasmussen, Chris Hansen, Ivan Rasmussen, Roy Cahoon, Birch Creek Irrigation Company Number One,

85695

a water user's association); J. J. Call; Grover C. Hogan, successor to Alex M. Christensen; Annie M. Christensen, Martin Christensen, Steffen C. Christensen, Walter Christensen; Emma Collins and Estate of J. W. Collins, deceased; E. H. Coombs, David Coombs, Albert C. Davis, Wm. J. Davis, Sam Gagon; Geo. Greene, administrator of the estate of Patrick W. Gallagher, deceased; Glencoe Irrigation Company, a corporation (substituted for and successor in interest to the following: Ezra Larsen, P. P. Carver, Emanuel Keller, A. A. Wilde, L. E. Ericksen, Hy. Johnson, Richard Peterson, Enoch Peterson, Peter Ericksen, Mrs. Carl Wallgren and Fred Egley); Robert B. Gunnell, Chris Hansen, John W. Harrington, Geo. W. Harrington, Mrs. Sarah Hess, George Harrison, Thomas J. Hopkins, J. M. Horsley, P. F. Ivie, Dave Jenkins, Joseph Larsen, Ezra E. Larsen, James Larsen, Jr., Nevada A. Larsen, John E. Martinson (or Mortenson), Arwell L. McKay, H. J. McKay, Jedediah McKay, Emma H. Meservey; Mink Creek Irrigation Company Number Four, a corporation (substituted for and successor in interest to the following: James M. Keller, Adam and Urias Keller, Hans C. Jensen, Daniel Jensen, Harry and Frank Jensen, Dora Jensen, Selestres Keller, Wm. Rasmussen, N. C. Eskelson, Christensen and Jeppson, Mrs. C. C. Christensen, J. H. Bell, Wm. D. Baird, Lorenzo S. Baird, James Keller, Lewis Keller, Roy Cahoon, Mink Creek Irrigation Company Number Four, a water user's association); Mink Creek Irrigation Company Number Three, a corporation (substituted for and successor in interest to the following: Lewis Keller, Wm. Rasmussen, Lorenzo S. Baird, Margaret Baird, J. H. Bell, Wm. D. Baird, James M. Keller, Jr., Selestres Keller, Adam and Urias Keller, Thomas Jeppson, Henry Christensen, and Mink Creek Irrigation Company Number Three, a water user's association). Christina Nelson, Wilford Nelson, Wilford Panter, Jacob Peterson, Junius F. Phillips, Mileta Pond, J. T. Pond, L. A. Pond and John Bartlome, a co-partnership known as Pond Bros. and Bartlome; John R. Reeder, J. R. Rencher, Sam Richardson, C. G. Rose, Mrs. Alonzo H. Seamons, David Seamons, Chas. Shumway, A. T. Smith, Mary E. Smith, Nathan Smith, Andrew Stauffer; Ira R. Steed, substituted for A. E. Henderson; Alnora C. Stevenson, Mary Swenson, O. A. Thompson, Dr. Tigertt, Alma Turner; Ole Hansen, Henry Larsen, George A. Smith, Anthon Nelson and Charley Christensen, a co-partnership known as Upper Cleveland Irrigation Company; Alfred Westerburg, C. T. Woodal, Eph. T. Williams, D. A. Woodal, Lawrence Wilde; E. T. Zeigler and Neil M. Sorenson, known as Sorenson & Zeigler, a co-partnership, successors to R. E. Hansen; Arthur Coombs and Lillie Coombs, (substituted for Harlow R. Hoops); Sewell Roper, Simpson Roper, Orrin Roper and Roy Roper, a co-partnership known as Roper Brothers, (substituted for J. F. Medford

and Lucinda Walker); Elmer W. Smith, successor to Frank Sant; Frank E. Ellis, (substituted for John Corrigan and Minnie Corrigan); Twin Lakes Canal Company, a corporation, (substituted for Oneida Irrigation District); Edwin D. Whitman, administrator of the estate of Joseph E. Simmons, deceased (substituted for Joseph E. Simmonds); O. H. Brown, Independent School District Number Six, a corporation; Anna L. Westrom, D. Young, Ed and Wilbur Beus; Estate of Mary Baird, deceased; Charles R. Lakey, M. E. Corrigan, the Misses Childs, W. F. Messenger, Mrs. F. J. Fryar, Mary Cox, J. A. Swenson, W. J. Kellogg, W. F. Donahue, Doctor Smedley, Alvin Myers, Eva I. Dygert, Wm. Winchell; Presbyterian Church, a religious corporation; Kate Dubry, George White, T. A. Sterrett, E. C. Foster, J. P. Wannamaker, James Watson, Ellen E. Woodall; Austin Bros. Association, a corporation; Mrs. Albi Williams, A. J. Knollin, Minnie O. Blackburn, Amelia Woodal, Ellen Lund, C. K. Bocker, Madge Bell, Church of Jesus Christ of Latter Day Saints, a religious corporation; L. P. Beus, D. A. Anderson, George Clifford, George Albrecht, D. F. Lau, John Ferebauer, Margaret F. Cully, J. P. Madsen, Henry L. Finch, Elizabeth Dorrien, Chris Panting, Priscilla Gorton, W. M. Davis, A. W. Nicholson, George Horsley, T. W. Horsley, J. J. Skinner, D. K. McLean, Sam Hopkins, Eliza Schmidt; Natural Mineral Water Company, an unincorporated association; Rosina Hopkins, J. H. Schmidt, Anna Hamilton, George R. Small, Arminta Sterrett, Oren Hansen, S. Small, Annie Wetzel, Elizabeth Williams, Ira Hardy, E. T. Wood, C. B. Johnson, Wm. Chester, Caroline D. Eastman, William Body, (substituted for George Woods); Soda Springs Mill and Elevator Company, a corporation; Jesse P. Anderson, George W. Ellis, Otto Rohalt, Wm. B. Fowler, George E. Beckstead, Jr.; and Albert Capson, successor to Leo Meachem,

Defendants.

DECREE

This case came on to be further heard at this term, additional proof being submitted, and the cause further argued by counsel, and thereupon, upon consideration thereof, it is ORDERED, ADJUDGED AND DECREED as follows, viz:

I.

1. That the Bear River is an inter-state stream with a large number of tributaries in the States of Utah, Wyoming and Idaho, said river rising in the Wasatch mountains in northeastern Utah and flowing in a general northerly direction through the States of Utah and Wyoming to a point on the boundary line between the States of Idaho and Wyoming near the town of Border in the State of Wyoming, into the State of Idaho, thence in a general northwesterly direction around the north end of Bear Lake (including North or Mud Lake) located in Bear Lake County, Idaho, and Rich County, Utah, to a point near the town of Alexander in said State of Idaho, thence in a general southerly direction through the States of Idaho and Utah, emptying into Great Salt Lake in said latter state.

That there is hereby drawn within the jurisdiction of this court, for distribution for beneficial uses, under and pursuant to the terms of this decree, all that portion of Bear River, as above described, commencing at a point directly north of Bear Lake in Section 34, Township 13 South, Range 44 East, Boise Meridian, which said point is marked and indicated by the "Stewart Dam," and headgates to the plaintiff's intake canal into Bear Lake Reservoir, known as the "Rainbow Canal," thence generally northwesterly through Idaho, to a point near the town of Alexander, thence in a general southerly direction to the boundary line between the States of Idaho and Utah, together with all intervening tributaries of the Bear River, which are decreed to constitute a single inter-dependent river system, to be administered under the terms of this decree.

2. Subject to the prior rights of the various defendants, as hereinafter decreed in the order of their respective priorities, the said plaintiff, the Utah Power & Light Company, has the right to divert at the Stewart Dam, as hereinbefore described, (and also in seasons of flood water through the "Dingle Inlet Canal" diverting from Bear River in the Northwest quarter of Section 17, Township 14 South, Range 45 East, Boise Meridian) and to impound and store in the Bear Lake Reservoir, consisting of Bear Lake and Mud or North Lake, in Rich County, Utah, and Bear Lake County, Idaho, all of the waters of Bear River to the extent of 5500 cubic feet per second of time, together with the waters naturally flowing into or arising in said lakes, all said waters to be stored in said Reservoir, and to be thereafter released from said reservoir at the said plaintiff's pleasure, through the plaintiff's embankment or "dyke" located within the lake meander lines, and extending from

Section 16 to Section 18, in Township 14 South, Range 44 East, Boise Meridian, by means of control works located therein at a point approximately North 64°15′ East 8120 feet from the Southwest corner of Section 18, Township 14 South, Range 44 East, Boise Meridian, and to be thence conveyed through the plaintiff's outlet canal, extending generally northwardly from the said control works to a confluence with Bear River, near the center of Section 6, Township 13 South, Range 44 East, Boise Meridian, and thence down the natural channel of Bear River, for use at various points of diversion now existing, or which may hereafter be established by the plaintiff for the generation of electric power, and for such irrigation or other beneficial purposes, recognized by law, as the plaintiff may devote or dedicate said released stored waters, by use, sale, rental, or otherwise.

In its exercise of the rights herein defined, the plaintiff may, to the extent of its various appropriations, divert and impound in storage, the waters of Bear River and of Bear Lake at all times, and at all seasons of the year, when by so doing it does not interfere with the exercise of any prior rights fixed by this decree, and the waters released by it from storage may be conveyed through the natural channel of the river, and shall be protected under the provisions of this decree for the distribution designated by the plaintiff, as though kept and conveyed within an artificial channel, and the return of the waters to the river, after their various uses by the plaintiff, shall not be deemed an abandonment thereof, but it is recognized by this decree, and it shall be recognized by the officers charged with the administration hereof, that the plaintiff's rights in said waters continue throughout the portion of the stream brought under this decree for use both in Idaho and beyond the Utah-Idaho state line, and all parties to this suit, their heirs, executors, administrators, successors in interest and assigns, and the agents, servants and attorneys of said parties, their heirs, etc., are hereby perpetually enjoined and restrained from in any manner using or interfering with the use by the plaintiff of the said released stored waters, except with the consent and under the authority of the plaintiff, its successors or assigns.

In administering the rights of the plaintiff herein decreed and mentioned, the following considerations shall be observed and recognized:

For the purpose of regulating and controlling the flow of the river, and in the interest of conservation of the waters thereof, the plaintiff may, at any time, divert at its Stewart Dam, and through its Rainbow Canal (and in seasons of flood through the Dingle Inlet Canal) above mentioned, the entire flow of the waters of Bear River, provided it discharges at the same time through its outlet control works, (when there is need therefor to supply the rights of prior appropriators below), and into its outlet canal, and conveys thence to the natural channel of

85695

Bear River, an equivalent amount of water, such quantity to be regarded as natural flow of the river, and not released stored water. In order to compensate for the natural yield of the Bear Lake area, including Bear Lake and Mud Lake, and the area between the lake meander line and Bear River, and mountainous slopes to the west, which area was formerly drained by a natural channel known and designated herein as the "natural outlet," as claimed in the cross bills of certain defendants, the plaintiff shall discharge from its reservoir, through its outlet works, (when required to supply the rights of prior appropriators below) a quantity of water sufficient to yield at a point in the plaintiff's outlet canal, at measuring devices to be installed by the plaintiff as near as practicable to the present bridge on the Montpelier-Ovid road, in the Southwest quarter of Section 7, Township 13 South, Range 44 East, Boise Meridian, the following amounts in addition to any amount of water then being discharged to equal diversions from Bear River, and regarded as "natural flow," to-wit:

From April 20 to July 1st of each year, 50 cubic feet per second;
From July 1st to July 15th of each year, 35 cubic feet per second;
From July 16th to Aug. 1st of each year, 25 cubic feet per second;
From Aug. 1st to Sept. 15th of each year, 15 cubic feet per second;

such quantity of water to be also regarded and distributed as "natural flow," and not "released stored water," and shall be full compensation for any interruption of natural flow from said Bear Lake area by the plaintiff's reservoir works.

In the delivery to the plaintiff of released stored water at its several power plants, now or hereafter established, or at such points of diversion for irrigation or other beneficial purposes as it may designate for such delivery, transit losses shall be computed as follows:

1½% of the net release from storage (after adjustments for natural flow as aforesaid), from the outlet works at dyke to points between Alexander and plaintiff's Grace Dam, situate in the Northeast quarter of Section 1, Township 10 South, Range 40 East, Boise Meridian;

An additional 1% from said Grace Dam to the headgate of the West Cache Canal Company, situate in the Southeast quarter of Section 25, Township 14 South, Range 39 East, Boise Meridian, and

An additional 1% from said West Cache headgate to the boundary line between Utah and Idaho.

In determining transit losses, or otherwise calculating the division of waters at the various principal points of diversion, as between natural flow of the river and released stored waters, a time lag of twenty-four hours shall be applied for the flow of released stored waters from the plaintiff's control works to points between Alexander and Grace Dam, and an additional twenty-four hours to points between West Cache headgates and the Utah-Idaho State line, and a proportionate time for intervening points of diversion.

3. In addition to the storage rights of plaintiff, herein decreed, the waters of Bear River and its tributaries between the points hereinbefore described, as drawn within the jurisdiction of this court for distribution under this decree, are hereby allotted and decreed for the various beneficial uses herein specified, without waste, to the plaintiff and defendants, respectively, and their successors in title and interest, in the amounts, for the purposes, and with the priorities, established and prescribed by the "Schedule of Rights" hereinafter defined.

The rights herein decreed and recognized are designated and classified as "Power Rights," "Irrigation Rights" and "Domestic Rights," respectively, and shall have the following characteristics:

"Power Rights" include the right to divert and use water for the generation of electric power, and such rights of diversion and use are continuous throughout the year without limitation to time or season.

"Irrigation Rights" include the right to divert and use water for irrigation, culinary, domestic, and agricultural purposes connected therewith, throughout the irrigation season of each year, which is defined as that portion of each calendar year which commences on the 20th day of April and closes on the 30th day of September; subject to the qualification, however, that between the 20th and 30th days of April of each year, and the 15th and 30th days of September of each year, inclusive of each of said days, no irrigation appropriator shall divert or use more than 40 per cent of his or its allottment under the "Schedule of Rights" hereinafter prescribed, except as is hereinafter specifically provided in the "Schedule of Rights." The water allotted and decreed to the parties hereto for irrigation purposes is, and shall be, appurtenant to the land upon which the same has been applied and used, as described in the schedule; subject, however, to the rights of appropriators or shareholders in any appropriating canal company to change the place of diversion or use as provided by law when no damage or injury results to others, or to make any beneficial use of such waters, or any part thereof, which does not injure other appropriators.

"Domestic Rights" include the right to divert and use water during the non-irrigating season, that is to say, from the first day of October of each year to the 19th day of April following, both dates inclusive, under agricultural appropriations and through irrigation ditches, for general domestic uses, including watering stock and culinary purposes. Each irrigation right herein decreed shall include and imply as a part thereof a domestic right to the use, during the non-irrigating season, of such of the waters allotted for irrigation purposes as are necessary for such domestic purposes and such shall be the measure of said domestic rights, and the extent of use of water through irrigation canals in the non-irrigation season,

85695

until the amount shall be more definitely fixed under the reservation of jurisdiction hereinafter contained. Nothing herein contained shall affect specific allottments made in the schedule of rights under appropriations for domestic, culinary or other specific beneficial purposes, which rights are to be recognized and administered specifically as decreed.

All rights herein decreed to the plaintiff and the several defendants are decreed for the beneficial uses specified, and none of the parties hereto, or their successors in interest, whether heirs, executors, administrators, successors or assigns, shall have the right to divert any of the waters of said Bear River, or any of its tributaries, except for beneficial use, and whenever such use has ceased, such party or parties shall cease to divert, and shall have no right to divert, the said waters, or any part thereof, and each and every of the parties hereto, their servants, attorneys, employes and successors in interest, as aforesaid, are hereby enjoined and restrained from any and all interference with or diversion or use of the said waters, except in the manner, and to the extent, and for the purposes, provided in this decree, whenever such interference, diversion or use would in any manner interfere with the diversion or use of the water awarded by this decree to any of the other parties to this action.

The parties hereto and their successors in interest shall install and maintain suitable and efficient headgates, controlling works and measuring devices at their respective points of diversion, and all water herein allotted and decreed shall be measured at said points of diversion. Said works and devices shall be built and installed in accordance with plans and specifications to be approved by the state official charged with the duty of supervising the distribution of water, (subject to review by this court). All such devices shall be of such design as to accurately register the amount of water diverted, and in the case of ditches diverting fifty or more cubic feet per second, automatic measuring and registering devices shall be installed and maintained. All such headgates, control works and measuring devices and gauges shall at all times be subject to the inspection of either party, and to public officials or water masters having jurisdiction over the distribution and diversion of water, and no dam or other obstruction to the natural flow of the stream shall be maintained so as to divert water from the channel of the stream, except through ditches, canals or other works provided with such headgates, control works and measuring devices, and each of the parties hereto shall be perpetually enjoined from diverting from the channel of the stream or its tributaries any water through any ditch, conduit or other devices not provided with such headgates, control works and measuring device; *provided,* that in case of diversions through pipes for power purposes, measuring devices may be dispensed with where the quantity of water diverted may be otherwise determined by calculations based on power output or current meter measurements.

4. Subject to the power and duty of this court to supervise and enforce the administration of its decree from time to time as occasion may require, and to that end to appoint if necessary its commissioner for that purpose, for which jurisdiction is hereby expressly reserved, the administration of this decree shall be left in the first instance with the officials of the state of Idaho charged with the duty of supervising the distribution of the public waters within said state, the costs and expenses of such administration to be defrayed as provided by the statutes of Idaho. Any party hereto may apply at any time for directions to the watermaster, or for the appointment of a commissioner, if necessary, to enforce any provision of this decree.

The watermaster or commissioner, or other official charged with the distribution of the waters of the Bear River and its tributaries subject to this decree, need not in the first instance, by reason of the decree, undertake the detailed administration of the waters of the entire portion of the river and tributaries placed under the decree, but only of such section of the main river and such tributaries as he shall be specifically directed to administer. Such administration may be extended upon application of any party, from time to time, as the irrigation season advances and necessity therefor arises. Such watermaster, commissioner, or other official, however, shall, after his appointment, have general supervision of the entire river, and of the tributary waters, and if called upon to administer the waters of any particular tributary he may utilize any agency for the distribution of the waters of such tributary locally selected or agreed upon by the water users from such tributary, and if necessary he may appoint assistants to administer any section of the main river, or any tributary thereof, provided always that any party hereto may invoke the powers of such watermaster, commissioner, or other official, to personally direct and supervise the administration of the waters of any section of the river, or of any tributary or tributaries, in strict conformity to the provisions of this decree, both during the irrigation season, and the non-irrigating or winter season, so far as may be necessary to secure to the several parties their rights hereunder, and failing to obtain proper action by such watermaster, commissioner or other official, may apply to the court for directions in the premises.

5. The plaintiff, Utah Power & Light Company, and the defendant, Utah-Idaho Sugar Company, have certain rights to the use of the waters of Bear River with points of diversion in Utah below the Utah-Idaho state line, which rights are included in the schedule of rights herein decreed. The inclusion of said rights in the said schedule is not to be construed as a decree *in rem*, establishing said rights, or as an adjudication of title to said rights, which have attached in a state or district beyond the jurisdiction of this court, but merely as a recognition of said rights to the extent that in the administration of that part of the river within the jurisdiction of this court, and the operation of this decree as hereinbefore defined, the watermaster, com-

85695

missioner or other official charged with the administration of the decree, shall see that there is delivered at the Utah state line such quantity of water as is necessary, together with natural increment below said Utah state line, to satisfy said rights in accordance with their dignity and priority as herein recognized.

II.

("Schedule of Rights.")

c.f.s. is used throughout this schedule to designate a flow of one cubic foot of water per second of time.

ac. ft. is used throughout this schedule to designate a quantity of water sufficient to cover an area of one acre to a depth of one foot, or 43,560 cubic feet of water.

MAIN RIVER DIVERSIONS.

1. *Utah Power & Light Company*—Storage rights.

The plaintiff, Utah Power & Light Company, is entitled to divert from the main channel of Bear River, from the natural flow thereof, for storage purposes, the following amounts:

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
1911—March 1 1912—Sept. 11	3000 c.f.s. 2500 c.f.s.	Said water to be diverted from Bear River through what is known as the Rainbow and Dingle Inlet Canals, the headworks of which are located respectively in the Northeast quarter of Section 34, Township 13 South, Range 44 East, B.B.M., and the Northwest quarter of Section 17, Township 14 South, Range 45 East, B.B.M. in Bear Lake County, Idaho, and to be carried into and stored in what is known as the Bear Lake Reservoir and withdrawn therefrom from time to time as needed or required by said Utah Power & Light Company, or its successors in interest, for the development of power or generating electric energy in any power plant which it may now have, or hereafter construct or acquire in or along Bear River, in the states of Idaho and Utah, and for irrigation purposes in what is generally known as Bear River Valley in said states.
From Bear Lake: 1912—Sept. 1 *From Mud Lake*: 1912—Sept. 1	 300 c.f.s. 200 c.f.s.	Said water to be stored in what is known as Bear Lake Reservoir, and withdrawn therefrom from time to time, as provided in the immediately preceding paragraph.
2. *E. P. Johnson, Albert Johnson and Hyrum L. Johnson:* (a) 1889—July 30 April 20 to July 1 July 2 to October 1	 4 c.f.s 1.6 c.f.s	Said water to be diverted from the main channel of Bear River at a point 50 feet West from the first railroad bridge Northwest of Novene Station on the Oregon Short Line R. R., and to be used for the irrigation of 160 acres in the West half of the Northeast quarter and the South-

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		east quarter of the Northeast quarter, Section 33, and the Southwest quarter of the Northwest quarter, Section 34, Township 10 South, Range 43 East, B.B.M.
(b) 1900—May 1	1.5 c.f.s	Said water to be diverted from the main channel of Bear River near the South quarter corner of Section 34, Township 10 South, Range 43 East, B.M. and used for irrigating 60 acres of land in the North half and Southeast quarter of the Southwest quarter, Section 34, and the Northeast quarter of the Southeast quarter of Section 33, Township 10 South, Range 43 East, B.B.M.
April 20 to July 1	0.6 c.f.s.	
July 2 to October 1.		
3. *Budge Land and Livestock Company, Limited:*		Said water to be diverted from the main channel of Bear River at a point North 61°10′ East 1495 feet from the quarter section corner, on the North boundary of Section 31, Township 10 South, Range 43 East, B.B.M., for the irrigation of 963.3 acres of land in Sections 30 and 19, Township 10 South, Range 43 East, and Sections 12, 13, 24 and 25, Township 10 South, Range 42 East, B.B.M.
(a) 1889—May 1	24 c.f.s.	
April 20 to July 1	9.6 c.f.s.	
July 2 to October 1.		
(b) 1889—May 1,	2 c.f.s.	Said water to be diverted from the main channel of Bear River at a point South 40°30′ East, 1500 feet from the Northwest corner of Section 19, Township 10 South, Range 43 East, B.B.M., for the irrigation of 82.8 acres of land lying east of Bear River in Sections 24 and 13, Township 10 South, Range 42 East, B.B.M.
April 20 to July 1,	1 c.f.s.	
July 2 to October 1.		
(c) 1889—May 1	2.5 c.f.s.	Said water to be diverted from the main channel of Bear River at a point North 14°30′ East 1350 feet from the quarter corner on the north boundary of Section 13, Township 10 South, Range 42 East, B.B.M., for the irrigation of 93.8 acres of land, lying north and east of Bear River, in Sections 12 and 11, Township 10 South, Range 42 East, B.B.M.
April 20 to July 1,	1. c.f.s.	
July 2 to October 1.		
		Said water decreed in paragraph 3a, 3b and 3c immediately above, may be diverted and used through all or any of said ditches.

	Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
4. *Eph. T. Williams:*			
	1895—March 21	2.4 c.f.s.	Said water to be diverted from Bear River in the Northwest quarter of Section 34, Township 9 South, Range 42 East, B.B.M., and to be used for the irrigation of 120 acres in Sections 33 and 34, Township 9 South, Range 42 East, B.B.M.
5. *Last Chance Canal Company, Ltd.:*			
	1897—March 1	200 c.f.s.	Said water to be diverted from the natural flow of Bear River, through a canal diverting therefrom at a point 70°35′ East, 4060 feet from the Northeast corner of Section 36, Township 9 South, Range 40 East, B. B.M., to be used for the irrigation of 29,000 acres of land under the canals of the Tanner Canal Company, Ltd., The Central Canal Company, The North Extension Canal Company, Ltd., The West Branch Canal Company, Turner Canal Company, Ltd., The East Branch Canal Company, and The Bench Canal Company, in the following subdivisions, to-wit:
	1901—May 14	240 c.f.s	
			In Township 8 South, Range 39 East, B.M., Sections 5, 7, 8, 9, 16, 17, 21, 22, 26, 27, 28, 34 and 35;
			In Township 9 South, Range 39 East, B.M., Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 21, 22, 23, 24, 25, 26 and 36;
			In Township 9 South, Range 40 East, B.M., Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, and 36;
			In Township 10 South, Range 40 East, B. M., Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 33, 34, 35 and 36;
			In Township 11 South, Range 40 East, B.M., Sections 1, 2, 3, 4, 9, 10, 11, 12, 13, 14, 15, 16, 22, 23, 24;
			In Township 10 South, Range 41 East, B.M., Sections 6, 7, 17, 18, 19, 20, 29, 30, 31, 32 and 33;
			In Township 11 South, Range 41 East, B.M., Sections 4, 5, 6, 7, 8, 18 and 19.
6. *The Bench Canal:*			
	(a) 1909—Aug. 9	138.16 c.f.s.	Said water to be diverted from the natural flow of Bear River through the canal commonly known as the Bench "B" Canal, diverting from said River at a point South 46°58′ West 1268.97 feet from the North-
	(b) 1909—Dec. 31	25.6 c.f.s.	

85695

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		east corner of Section 1, Township 10 South, Range 40 East, B.B.M., to be used for the supplemental irrigation of lands under the Last Chance system, hereinabove described under No. 5, provided, however, that the priority and amount of this appropriation is conditioned upon a compliance with the terms of the permit upon which said appropriations are based, to-wit: Permits No. 5308 and No. 5771 respectively, issued by the State Engineer of the State of Idaho, and the same are subject to the provisions of the laws of the State of Idaho governing the issuance of water licenses by the Commissioner of Reclamation of the said State of Idaho.
7. *Tanner Canal Company, Limited*: 1910—July 29	54 c.f.s.	Said water to be diverted from the natural flow of Bear River through the canal commonly known as the Tanner "B" Canal, diverting from said river at a point South 64°13′ West, 2182.24 feet from the Northeast corner of Section 1, Township 10 South, Range 40 East, B.B.M., to be used for the supplemental irrigation of lands under the Last Chance Canal system, hereinabove described under No. 5, provided, however, that the priority and amount of this appropriation is conditioned upon a compliance with the terms of the permit upon which said appropriation is based, to-wit: Permit No. 6631, issued by the State Engineer of the State of Idaho, and the same is subject to the provision of the laws of the State of Idaho governing the issuance of water licenses by the Commissioner of Reclamation of the said State of Idaho.
8. *Utah Power & Light Company*: *Grace Power Plant*: 1905—Dec. 28 1908—July 6	 500 c.f.s. 500 c.f.s.	Said water to be diverted by means of a dam situate in the Northeast quarter of Section 1, Township 10 South, Range 40 East, B.B.M., and conducted through two wood stave pipe lines to the Grace Power house of the plaintiff, situated in the Southwest quarter of Section 21, Township 10 South, Range 40 East, B.B.M., and there used for the generation of electric power or energy, and returned to the channel of Bear River.

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
9. *The Gentile Valley Irrigation Company, Ltd.*: 1889—June 1	33 c.f.s.	Said water to be diverted from the natural flow of Bear River in the Southwest quarter, Section 21, Township 10 South, Range 40 East, B.B.M., through the Gentile Valley Canal, and to be used for the irrigation of 1638 acres of land in the West half of Section 8, the East half Northeast quarter, the Southwest quarter, and the Southeast quarter of Section 29, the East half of Section 32, and the Northwest quarter of Section 33, all in Township 10 South, Range 40 East; the West half of Section 4, the East half, and the North half Southwest quarter of Section 5, the West half and the Southwest quarter Southeast quarter of Section 9, the South half Southwest quarter and the Southwest quarter Southeast quarter of Section 14, the South half Southwest quarter of Section 15, the North half, and the Northwest quarter Southeast quarter of Section 16, and the Southeast quarter Northeast quarter of Section 21, in Township 11 South, Range 40 East, of the Boise Meridian.
10. *Thatcher Irrigation Company, Limited:* 1901—Feb. 23	35 c.f.s. 28	Said water to be diverted from the natural flow of Bear River at the point described in the paragraph immediately preceding, through the said Gentile Valley Irrigation Company's canal, and to be used for the irrigation of 1738 acres of lands, situate under what is known as the Thatcher Canal in the Northeast quarter and the West half Southwest quarter of Section 22, the North half, the South half Southwest quarter, and the South half Southeast quarter of Section 23, the Southwest quarter Northwest quarter of Section 24, the South half Southwest quarter of Section 25, the Northwest quarter Southwest quarter, the Southeast quarter Southwest quarter and the Southeast quarter of Section 26, the East half and the Northeast quarter Northwest quarter of Section 35, and the West half Northwest quarter and Southwest quarter Southwest quarter of Section 36, of Township 11 South, Range 40 East; and the Southwest quarter, and West half Northwest quarter of Section 1, the Northeast quarter, the Northeast

85695

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		quarter Southeast quarter, and the Northeast quarter Southwest quarter of Section 2, and the Southwest quarter Southeast quarter of Section 12, and the Northwest quarter, the North half Southwest quarter and the West half Northeast quarter of Section 13; of Township 12 South, Range 40 East, of the Boise Meridian.
11. *Pond Brothers and Bartlome, a partnership composed of L. A. Pond, J. T. Pond and David Bartlome:* 1904—April 18	12 c.f.s.	Said water to be diverted from the natural flow of Bear River, and used through the Gentile Valley Irrigation Company's canal, as above described, for the irrigation of 560 acres of land, situated under what is known as the Pond Canal in the South half of the Northwest quarter and the Southwest quarter of Section 25, the Northwest quarter of the Northeast quarter, the Southeast quarter, the North half of the Southwest quarter, and the Southeast quarter of the Southwest quarter of Section 26, the East half and the Northeast quarter of the Northwest quarter of Section 35, the West half of the Northwest quarter, and the Northeast quarter of the Southwest quarter of Section 36, of Township 11 South, Range 40 East; and the Northwest quarter of the Northwest quarter of Section 1, and the North half of the Northeast quarter of Section 2, of Township 12 South, Range 40 East, of the Boise Meridian.
12. *Utah Power & Light Company: Cove Power Plant:* (a) 1916—March 9	1500 c.f.s.	Said water to be diverted by means of a dam in the channel of Bear River at a point South 65°19′ East 977 feet from the Southwest corner of Section 21, Township 10 South, Range 40 East, B.B.M., in Bannock County, Idaho, through a flume commonly known as the Cove Flume, to the Cove generating station in the Northwest quarter of Section 33, Township 10 South, Range 40 East, B.B.M., and there used for the generation of electric power or energy and returned to the channel of Bear River.
(b) 1916—March 28	4000 ac. ft.	Said water to be diverted from the channel of Bear River into the Cove Reservoir at a point North 46°30′ East, 1456 feet from the Southwest corner of Section 21, Town-

1/4 supplies but later in priority

85695

	Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
			ship 10 South, Range 40 East, B.B.M., to be stored therein, and withdrawn therefrom for use in connection with said Cove Plant, as authorized and provided for in Permit No. R-18, issued by the State Engineer of the State of Idaho.
13.	*Ethel H. Ellsmore*: 1898—August 31	1.0 c.f.s.	To be diverted from the natural flow of Bear River through a ditch known as the "Harris" Ditch, diverting on the West side thereof, at a point about 80 rods South of the Cove dam in the Southwest quarter of Section 21, Township 10 South, Range 40 East, B.M. for the irrigation of 47 acres of land in the Northwest quarter of the Southwest quarter of Section 33, and the Northeast quarter of the Northeast quarter of Section 32, Township 10 South, Range 40 East, B.M.
14.	*Frank W. Harris*: 1898—August 31	0.9 c.f.s.	To be diverted from the natural flow of Bear River, through the Harris ditch, last above described, for the irrigation of 43 acres of land in the Southeast quarter of the Southeast quarter of Section 29, the Northeast quarter of the Northeast quarter and the Northeast quarter of the Southeast quarter of Section 32; the Northwest quarter of the Northwest quarter and the Northwest quarter of the Southwest quarter of Section 32, Township 10 South, Range 40 East.
15.	*A. W. Harris*. 1879—May 1	2.2 c.f.s.	To be diverted from the natural flow of Bear River, through the Harris ditch, last above described, for the irrigation of 110 acres of land in the East half of the Northeast quarter of Section 32, the West half of the Northwest quarter of Section 33, Township 10 South, Range 40 East, B.M.
16.	*Utah Power & Light Company*: *Oneida Power Plant:* 1910—June 17	1000 c.f.s.	Said water to be diverted by means of a dam in the channel of Bear River at a point North 74°08′ West 7913 feet from the Northwest corner of Section 30, Township 13 South, Range 41 East, B.B.M., in Franklin County, Idaho, through a pipe line to the Oneida Power Plant, situate South 74°01′ East 3173 feet from the Northwest corner of Section 26, Township

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		13 South, Range 40 East, B.B.M., and there used for the generation of electric power or energy, and returned to the channel of Bear River.
17. *Utah Power & Light Company*: *Oneida Power Plant*: 1911—Jan. 18	1500 c.f.s.	Said water to be diverted by the dam, through the pipes, and used at the said Oneida Plant, as last above described.
18. *A. C. Bosen, Hyrum J. Smith, Robert L. Smith and Melvin Green*: 1882—May 1	5.5 c.f.s.	Said water to be diverted from Bear River through what is known as the Smith-Vanoy Ditch with point of diversion from Bear River in the Southeast quarter of Section 16, Township 14 South, Range 40 East, B.B.M., said water to be measured at point where Siphon No. 1 of Twin Lakes Canal Company crosses Bear River, and used for irrigating 300 acres of land to be divided as follows: .3 of this amount to Hyrum J. Smith for the irrigation of lands in the North half of the Southwest quarter of Section 2, the Southwest quarter of the Southeast quarter of Section 20, and 23 acres in the Northwest quarter of the Southeast quarter of Section 29, Township 14 South, Range 40 East, B.B.M. .5 to A. C. Bosen, for the irrigation of 107 acres in the Northeast quarter of the Northeast quarter and the Southeast quarter of the Northeast quarter and North half of the Southeast quarter, Section 21, and a few acres in the Southwest quarter of the Northeast quarter and the Northwest quarter of the Southwest quarter of Section 22, Township 14 South, Range 40 East, B.B.M. .2 thereof to Robert L. Smith and Melvin Green jointly, to irrigate 31 acres of land in the Southeast quarter of Section 20, Township 14 South, Range 40 East, B.B.M.
19. *Nelson Ditch Company*: 1880—May 1	6.5 c.f.s.	Said water to be diverted from Bear River at a point about 25 rods South of the Northeast corner of Section 20, Township 14 South, Range 40 East, B.B.M., for the irrigation of approximately 400 acres of

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		land situated in Sections 29 and 30, said Township and Range.
20. *Riverdale-Preston Irrigation Co.*: 1883—June 10 1902—June 10	 3 c.f.s. 6½ c.f.s.	Said water to be diverted from the main channel of Bear River at a point 20 rods Northeasterly from the Southeast corner of the Northeast quarter of the Northeast quarter of Section 29, Township 14 South, Range 40 East, B.B.M., and to be used for the irrigation of 615 acres of land in Sections 29 and 31, Township 14 South, Range 40 East, Section 36, Township 14 South, Range 39 East, and Section 1, Township 15 South, Range 39 East, B.B.M.
21. *Riverdale Irrigating Company:* 1882—May 1	 13 c.f.s.	Said water to be diverted from Bear River in the Northeast quarter of Section 31, Township 14 South, Range 40 East, B.B.M., and to be used for irrigating 800 acres of land in Sections 34, 35 and 36, Township 14 South, Range 39 East, and Sections 1, 2 and 3, Township 15 South, Range 39 East, B.B.M.
22. *West Cache Irrigation Company*: 1899—Sept. 12	 186 c.f.s.	Said water to be diverted from Bear River at a point 700 feet North and 42°33′ West of a point 43 feet East of the Southeast corner of the Southwest quarter of Section 25, Township 14 South, Range 39 East, B.B.M., and to be used for the irrigation of 14,832 acres in Sections 19, 20, 29 and 30, Township 15 South, Range 39 East, Sections 4, 5, 17, 19, 20, 29 and 30, Township 16 South, Range 39 East, B.B.M., Sections 35 and 34, Township 15 North, Range 1 West, S.L.B.&M., Sections 3, 4, 9, 10, 11, 15, 16, 21, 22, 23, 25, 26, 27, 28, 33, 34, 35 and 36, Township 14 North, Range 1 West, Sections 1, 2, 3, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 35, 36, Township 13 North, Range 1 West, Sections 5, 6, 7, 8, 18, 19 and 30, Township 13 North, Range 1 East, Sections 1, 2, 3, 4, 11 and 12, Township 12 North, Range 1 West, S.L.B.&M.
23. *Battle Creek Irrigation Company*: 1883—July 10	 5 c.f.s.	Said water to be diverted from Bear River at the point of diversion of the West Cache Irrigation Company last above described, and conveyed through said canal of the West Cache Irrigation Company to a point

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		near Battle Creek, where it will be used by the Battle Creek Irrigation Company for the irrigation of approximately 400 acres of land in Sections 34, 33 and 35, Township 14 South, Range 39 East, and Sections 2, 3, 4, 9, 10 and 11 in Township 15 South, Range 39 East, B.B.M.
24. *Utah Power & Light Company*: *Wheelon Power Plant*:		Said water to be diverted by means of a dam in the channel of Bear River at a point which bears North 80°33′ West 2183 feet from the Northeast corner of Section 26, Township 13 North, Range 2 West, S. L.B.M., in Cache County, Utah, through either or both of two canals commonly known as the East Side Canal and the West Side Canal, to the Wheelon Power Plant, situate in the Southeast quarter of the Southwest quarter of Section 27, said Township and Range in Box Elder County, Utah, and there used for the generation of electric energy or power and returned to the channel of Bear River.
1903—Dec. 1	270 c.f.s.	
1906—Dec. 1	135 c.f.s.	
1908—Dec. 1	135 c.f.s.	
1912—Dec. 2	500 c.f.s.	
25. *Utah-Idaho Sugar Company*:		Said water to be diverted by means of a dam known as the "Wheelon Dam" in the channel of Bear River, located at a point North 80°33′ West, 2183 feet from the Southeast corner of Section 23, Township 13 North, Range 2 West, S.L.B.M., in Cache County, Utah, through what is generally known as the West Side Canal, and used for the irrigation of 38,230 acres of land in the following subdivisions, to-wit:
(a) 1889—March 1	333 c.f.s.	
1901—May 14	133 c.f.s.	
1914—May 1	43 c.f.s.	
		In Township 13 North, Range 2 West, S. L. B. M., Sections 31, 33 and 34;
		In Township 13 North, Range 3 West, S. L.B.M., Sections 25. 26, 35 and 36;
		In Township 12 North, Range 3 West, S. L.B.M., Sections 1, 2, 11, 12, 13, 14, 15, 22, 23, 24, 25, 26, 27, 33, 34, 35 and 36;
		In Township 12 North, Range 2 West, S. L.B.M., Sections 4, 5, 6, 7, 18 and 19;
		In Township 11 North, Range 2 West, S. L.B.M., Sections 6, 7 and 31;
		In Township 11 North, Range 3 West, S. L.B.M., Sections 1, 2, 3, 4, 5, 6, 7, 8, 9, 10,

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35 and 36; In Township 11 North, Range 4 West, S. L.B.M., Sections 1, 2, 3, 10, 11, 12, 14, 15, 22, 27, 28, 29, 32, 33, 34 and 35; In Township 10 North, Range 4 West, S. L.B.M., Sections 5, 8, 21 and 22; In Township 10 North, Range 3 West, S. L.B.M., Sections 1, 2, 3, 4, 9, 11, 12, 13, 14, 23, 24, 25, 26, 28, 29, 32, 33, 34, 35 and 36: In Township 10 North, Range 2 West, S. L.B.M., Sections 18, 19, 20 and 31; In Township 9 North, Range 3 West, S. L.B.M., Sections 1, 2, 3, 4, 9, 10, 11, 15, 16, 21 and 22.
(b) 1904—June 1	95 c.f.s.	Said water to be diverted from the main channel of Bear River at the Wheelon Dam, described in the immediately preceding paragraph, through what is known as the East Side Canal, and used for irrigating 7,100 acres of land in the following described subdivisions, to-wit: In Township 12 North, Range 2 East, S. L.B.M., Sections 8, 17, 19, 30, 31 and 32; In Township 11 North, Range 2 West, S. L.B.M., Sections 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 28, 29, 30, 31, 32 and 33; In Township 10 North, Range 2 West, S. L.B.M., Sections 4, 5, 6, 7, 8, 9, 10, 15, 16, 17, 18, 19, 20, 22, 23, 28, 29, 30, 31, 32 and 33; In Township 9 North, Range 2 West, S. L.B.M., Sections 4, 5, 9, 16, 17, 20 and 21. Provided that the aggregate quantity of water to be simultaneously diverted, under this decree, through the "East" and "West" Wheelon Canals, for power and/or irrigation purposes, shall not exceed 1414 cubic feet per second of time.

Notes:

Pages 25-112 of the Dietrich Decree are omitted from this copy in Attachment Q. The copy continues below with pages 113-117 of the decree.

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		the irrigation of 2000 acres in Sections 4, 5, 8, 9, 10, 11, 12, 13, 14, 15 and 16, Township 16 South, Range 38 East, B. M.
510. *Isaac McKay, H. J. McKay, Arwell L. McKay, Jedediah McKay and Mrs. Elnora Stevenson, jointly:*		To be diverted from and returned to the said Weston Creek in the South half of Section 14, Township 16 South, Range 38 East, and to be used for power purposes only, and without obstructing or retarding the continuous flow of said waters to the Weston Creek Irrigation Company during the irrigation season. This appropriation nevertheless is awarded the right to impound said water for its power uses during the non-irrigation season.
1868—May 1	10 c.f.s.	
1885—May 1	10 c.f.s.	

Wherever in the foregoing schedule a right is allotted to a corporation as such, which said corporation has forfeited its charter under the statutes of Idaho by failure to file any return or statement, or pay any tax required by law, and such appropriation is represented herein by its directors as statutory trustees, the said allotment shall be deemed to be made to the said directors as trustees, and no right shall be prejudiced by failure or omission to name the said trustees as such, and wherever subsequent to the filing of bill of complaint against the said directors as trustees of any such corporation, the charter of said corporation has been revived in accordance with law, and said corporation has appeared herein and submitted proof of its rights, the said corporation shall be deemed to have been regularly substituted for the said trustees as party hereto.

Provided, however, that notwithstanding this schedule of Rights, users of water under this decree shall at no time divert more water than can be beneficially used, and waste of water is hereby prohibited and enjoined.

III.

1. The following parties to this suit having been duly served with subpoena or warning order, proof of such service having been made, and they having either filed disclaimer or having filed no answer, motion or other appearance or pleading herein, and decree *pro confesso* having been regularly taken against them, and having failed to appear or procure a vacation of said decree, are ADJUDGED AND DECREED to have no right, title, interest or claim in or to any of the waters of Bear River, or its tributaries, and said parties, their agents, servants ,attorneys, successors in interest and assigns, are perpetually enjoined from diverting or using any

85695

of the waters of Bear River, or its tributaries, except as they may hereafter initiate or acquire rights to the use of said waters:

S. H. Atkinson, Edw. Balfour, Banks Investment Company, Mary Bassett, E. L. Bennett, Matilda Bennett, James Calkins, Colin A. Chester, Chris Christiansen, Joseph Christensen, Thomas R. Condie, Isabelle E. Foreman, Ezra C. Foss, Wm. Fowler, C. W. Fryar, Otto Gulbransen, John Harrington, Thomas Jensen, Julius Johnson, Arthur F. Lau, Charles Lund, Wm. C. McGregor, Ed. Meacham, C. J. Mortenson, Thomas Palmer, Richard Olverson, Peter W. Peterson, Engar or Ingard Pearson, Byrum H. Prescott, Hans J. Rasmussen, Norena B. Robins, James Rolando, W. R. Taylor, Rachel S. Thatcher, Orison Thompson, F. H. Wacker, Charles Westerburg, Peter Westerburg; Weston Reservoir and Power Company, late a corporation, and N. P. Jensen, Yeppa Bensen, Frederick Day, Peter Mickelson, Joseph Georgensen, its statutory trustees; Mrs. Hans L. Nelson, Lars W. Nelson, Leonard Nelson, Ellsworth Norris, Nielson-Meek Company, a corporation; Annie L. Peterson, (now Annie L. Potter), Charlotte Walton, Christina V. Wilde, Torval Wilde, Isabel Ames, Hyrum Bell, David Burnett (Barnett), Annie E. Cardon, Philip Chugg, Anna J. Clegg, Amelia Cole, W. S. Cole, William O. Creer, R. T. Hayes, J. S. Hite, Charles Hubbard, Geo. Hultz, Horace Howard, Benj. Hymas, George Jenkins, L. P. Larsen, Robert Kirkham, C. J. Martinson, H. D. Maughan, George I. McFarland, Philip Purcer, H. A. Ransome, Thomas Redford, Eliza A. Seamons, Charles Sorensen, John Sorensen, Nellie Simmons, Amy L. Toone, J. P. Toone, Turner Trust Company, David Williams, Mrs. Freda Anderson, Ira Call, Christian Call, Thomas E. Stanton, The Idaho State Life Insurance Company, Devereaux Mortgage Company, People's Bank & Trust Company, Utah Mortgage Loan Corporation, Continental & Commercial Trust and Savings Bank, (formerly American Trust & Savings Bank); J. N. Ireland & Company, Joshua Adams, Peter Patterson; Cache Valley Land & Canal Company, late a corporation, and Frank Higgenbotham, its statutory trustee; First National Bank of Logan, National Bank of the Republic, Zina B. Cannon; Bancroft Land & Irrigation Company, and W. E. Booth and S. E. Marshall, its statutory trustees; Capital Trust Company, Jerome W. Wheeler, Minnie Walker, Illinois Trust & Savings Bank; Peabody, Houghteling & Company; John C. Hansen, Walter Anderson, Walter S. Crane, Geo. B. Folkman, Lewis S. Pond; Soda Springs Electric Company, late a corporation, and James M. Horsley, Matilda J. Horsley, Newell J. Horsley and A. L. Cook, its statutory trustees; John Skinner; Thatcher Canal and Power Company, late a corporation, and J. A. Folkman, Milton Robbins, George H. Smith and

Nathan D. Thatcher, its statutory trustees; J. B. Wagentz, Francis Clayton, Thomas Freeman, John E. Hill, J. P. Rasmussen, S. H. Richards, Nels P. Roholt; Western Mills, late a corporation, and George Cole, Isaac Jorgensen, and Thomas Preston, its statutory trustees; and Ida M. Kackley.

Nothing in this decree contained shall be construed to prejudice or otherwise affect the liens of any parties hereto claiming rights as mortgagees or lienholders against any of the water rights or lands to which they are appurtenant, as herein decreed, but said parties shall be bound by the provisions of this decree as determining the priority and amount of water rights to which any of their said liens may attach.

2. The following parties to this action, to-wit: Clifford M. Reed, C. B. Wilson (or Charles B. Wilson), R. N. Egbert, Rosa Martinson, Nathan D. Thatcher, Henry C. Christensen, Frank (or F. A.) Manning, George W. Harrington, Junius F. Phillips and Sam Gillett, having regularly appeared herein by cross bill or other pleading and having failed to submit proof in support of their claims, it is therefore, ORDERED, ADJUDGED and DECREED, That said parties take nothing by their said cross bills, and that they have no right, title, interest or claim in or to any of the waters of Bear River or its tributaries, and said parties, their agents, servants, attorneys, successors in interest and assigns are perpetually enjoined from diverting or using any of the waters of Bear River or its tributaries except as they may hereafter initiate or acquire rights to the use of said waters.

3. It is further ORDERED, ADJUDGED and DECREED, that Elmer W. Smith has no right, title, interest or claim in or to any of the waters of Bear River or its tributaries except as a stockholder of and water user under the Gentile Valley Irrigation Company; that Milton Robbins has no right, title, interest or claim in or to any of the said waters except as a stockholder of and water user under the Gentile Valley Irrigation Company and Thatcher Irrigation Company, Limited; that Catherine A. Bevins, David Coombs, Robert N. Egbert, and Boletta Olson have no right, title, interest or claim in or to any of the said waters except as stockholders of and water users under Thatcher Irrigation Company, Limited, and that said parties and each and every one of them and their agents, servants, attorneys, successors in interest and assigns are perpetually enjoined from diverting or using any of the waters of Bear River or its tributaries except as they may hereafter initiate or acquire rights to the use of said water, and except as they may be entitled to the use of water by reason of their interest in the said Gentile Valley Irrigation Company, and the said Thatcher Irrigation Company, Limited.

85695

4. The plaintiff having filed herein its bill of costs for expenses incurred by it for printing bill of complaint, for making service of process, including subpoena *ad respondendum* and warning orders, and of printing this decree, amounting to $1,923.75, it is ORDERED, ADJUDGED AND DECREED that the same be taxed as costs against the parties to whom rights have been decreed herein *per capita*, at the rate of $4.81 against each of said parties.

The plaintiff having further included in said bill of costs the amounts paid by it to C. E. Tappan as water master or commissioner of the court in charge of the distribution of water as between the plaintiff and defendant, Last Chance Canal Company, Limited, during the years 1918 and 1919, including therein services rendered by said commissioner for the distribution of water of Soda Creek to the Farmers Land & Irrigation Company during the year 1919 ,it is ORDERED, ADJUDGED AND DECREED that $125.00 of said amount be charged to the said Farmers Land & Irrigation Company and $75.00 to T. H. Horsley, J. E. Lau, D. J. Lau and H. M. Lau, for said last mentioned services, and that one-half of the balance, to-wit: $1,025.20, be taxed to the Last Chance Canal Company, Limited, and the plaintiff may have process to recover all said costs as herein taxed, in accordance with the rules and practice of the court in equity cases. No other costs or disbursements shall be allowed to any of the parties hereto, but each shall pay his or its own costs.

5. It is further ORDERED AND DECREED that the court retain jurisdiction of this cause for the following purposes:

(a) To make corrections for clerical errors, inadvertences and omissions in the rights decreed.

(b) To review and amend the provisions of this decree, fixing the limits of the irrigation season, and further reducing the amounts of water which may be diverted for irrigation purposes during the months of August and September upon proof of decreased requirements by any appropriator.

(c) To take further evidence upon and to increase or decrease, after hearing allottments for winter use.

(d) To amend the provisions of this decree upon transit losses of stored waters released from the plaintiff's reservoir, and to increase or decrease the allowances herein made for that purpose.

(e) To consider the claims of Thorg Johnson and Enoch Johnson, who claim to divert water from Soda Creek.

All the foregoing reservations of jurisdiction shall extend after the term at which this decree is entered, and during any subsequent term prior to January 1, 1924, at which time, or at such earlier time as the court may determine these matters, this decree shall be closed. In all other respects this decree shall be final.

The court further retains jurisdiction, however, at all times, and from time to time, to make all reasonable rules touching the manner of diverting, measuring and distributing the waters, and the devices to be installed and used for such purposes where it may be impracticable to fully comply with the terms of this decree, and to direct that the parties keep accurate and detailed records of the amounts of water diverted, and to require reports to be filed from time to time of the amount so diverted, and generally to make such orders as may be found reasonably necessary to give effect to the decree, and to appoint commissioners or water masters to make distribution in accordance with its terms, and to punish the parties hereto, their officers, agents and employes, and their grantees and successors in interest, for any violation of the provisions thereof.

Done in open court this 14th day of July, 1920.

FRANK S. DIETRICH,
Judge.

Attachment R KIMBALL DECREE

Notes:

This Attachment includes the operative provisions (pages 1-10 and 69-71) of the Kimball Decree (*Utah Power & Light Co. v. Richmond Irrigation Co.*, Final Decree, Utah Dist. Ct., First Judicial Dist. (Feb. 21, 1922) (Kimball, J.) (unreported)).

Pages 11-68 of the Schedule of Rights are omitted from this Attachment because they describe rights that have no connection with PacifiCorp. A copy of the full decree may be found online at www.bearrivercommission.org (under "documents" / "miscellaneous.").

In the District Court of the First Judicial District of the State of Utah In and In and For Cache County

UTAH POWER & LIGHT COMPANY, a Corporation, *Plaintiff*,

vs.

Richmond Irrigation Company, Coveville Irrigation Company, Webster Irrigation Company, Mountain Home Irrigation Company,

Smithfield Irrigation Company, Smithfield North Bench Ditch Company, Smithfield West Bench Irrigation Company, William A. Miles, Samuel Nilson, Johnathan Smith, Claus Anderson, Loretta Nilson, Marriner Roskelly, Richard Roskelly, A. D. Blanchard, Wm. Andrew, Bert Morse, Daniel Corbett, Catherine Roskelly,

Robert Read, David Weeks, Peter Hansen, William Pelkington,

William Done, George Done, Joseph O. Smith, Joseph Smith, Jesse Mortensen,

William Mather, Delbert Rice, L. E. Danielson, Gustav Peterson, John Gyllenskog, P. P. Bingham,

Riverside Pump and Irrigation Company, Hammer Canal Company,

William Coleman, Benjamin Coleman, John Coleman, Prime Coleman, Sylvester Coleman, Hyrum Coleman, Mary C. Coleman, Geo. A. Nelson,

Joseph Forester, James Forester, John Pitcher, Henry Pitcher, John C. Cannell,

James Meikle, James J. Meikle, Joseph Meikle,

Geo. P. Toolson, William Winn,

John Carlisle, Andrew Monk, Cyrus Clark, Jos. C. Jorgensen, John Matthews, Gottfred Beutler, Geo. L. Farrell, Freeborn Merrill, I. E. Noble, H. W. Noble, Howard Reese, A. V. Reese, C. A. Reese,W. G. Reese, T. H. Reese, A. J. Reese, R. O. Reese, M. M. Reese, Charles McCann, Joseph J. Richardson, James Roskelly, Mary E. Farrell, E. P. Erickson, Geo. R. Smith, Mary Chambers, Mell Chambers, Leah P. Olson, Lucius McCann, Samuel Hunt, R. L. Nelson, Annie M. Toombs, A. B. Chambers, Carrie E. Olson,

Irving Plowman, T. H. Chambers, Maggie Griffiths, Maria Peterson, D. G. Weeks, Henry McCracken, F. J. Gordon, Elizabeth Smith, Samuel Nelson, Alma Reese,

S. A. Scrowther, Wm. Read, Catherine Woodruff, B. H. Aiken, Nephi Tarbet, V. W. Merrill, Minnie Nilson, Parley Pitcher, Wm. Pitcher, James S. Sheen, T. U. Cragun, Theo. Chambers Sr., Theo. Chambers Jr., J. A. Cragun, Calvin Cragun, Regenia Smith, Peter Nilson, Kerste Nilson, W. F. Winn, F. M. Winn, S. P. Nilson, Grace Chambers, A. W. Chambers, P. C. Chambers, Moses Richardson, Richard Richardson, Violet Peterson, Wm. Thornley, Isaac Read, J. W. Peterson, Ephraim Weeks, J. P. Toolson, O. M. Monk, A. J. Monk, Ether Tarbet, Joseph Baugh, Mrs. Jane Doe Partington, John C. Larson, Cliff Goodwin, John M. Berry, Jos. R. Hebaus, J. Z. Stewart, Henry Griffiths, Euphemia Griffiths, James Read, Wm. Noble,

Thomas Smart, Hyrum J. DeWitt, Joseph Kent, Thomas Irvine, Harry Worley, William Baugh, Oscar Johnson, Ezra Ricks, Hugh J. Dowdle, Joseph E. Cowley Jr., Frank Cowley, Ernest Cowley, F. A. Benson,

Logan Cow Pasture Water Company,

Logan Land and Drainage Company, Ferdinand Zollinger, James J. Facer, Logan Hyde Park and Smithfield Canal Company, Logan and Northern Irrigation Company, Logan Hollow Canal Company, Providence-Logan Irrigation Company, Providence Pioneer Irrigation Company, Logan Northfield Irrigation Company, Logan Northwestfield Irrigation Company, Logan Island Irrigation Company, Seventh Ward Irrigation Company, Benson Irrigation Company, Logan River and Blacksmith Fork Irrigation Company, Hyde Park Irrigation Company, Southwest Field Irrigation Company; Thatcher Milling and Elevator Company, Logan City; Anderson & Sons Company; Central Milling and Elevator Company, Logan Stone and Monument Company; Anthon Anderson, Clara B. Smith, Grace Price, H. E. Hatch, Georgia T. Hatch, R. A. Hatch, Abbie B. Thatcher, Carrie B. Price, L. F. Smith, Lester Worley, George Worley, A. Walton, W. C. England, Ellen M. Peterson, Jesse Mayne, Roy Bullen, Brigham Parry, Anderson & Sons Company, a corporation, Bernard Parry, A. E. Anderson, Brigham Young College, a corporation, John Naf, E. N. Hammond, Alley T. Clayton, L. P. Watkins M. J. Watkins, W. W. Hall, W. E. Mitton, Thomas Howells, William Athay, Jane A. Thatcher, H. J. Hatch, James H. Allen Mrs. Asa Bullen, F. A. Hinckley, Abe Tyson, A. J. Hawkes, William Worley, C. H. Wakely, Harriet L. Benson, doing business as the Thatcher Irrigation Company, an unincorporated association, and John Dern, John C. Sharp, Elizabeth C. McCune, F.B.Stephens, Angus T. Wright, Anthony Wayne Ivins, Lorenzo N. Stohl, George T. Odell, J. W. Knight, A. G. Barber and Lois Hayball, as the Board of Trustees of Utah Agricultural College, Isaac P. Stewart, Mary J. Pedersen,

Hyrum Irrigating Company, Providence-Blacksmith Fork Irrigation Company, Millville Irrigation Company, College Irrigation Company, Spring Creek Irrigation Company, Blacksmith Fork Light and Power Company, South Cache Milling Company, Hyrum City, a municipal corporation; Charles L. Ames, Hansine Salverson, Norman H. Salverson, Jacob Janes, Lavina N. Peterson, Clayton Nielsen, Elva Nielsen, Lila Nielsen, Chas. L. Anderson, T. W. Peterson, Ernest Peterson, Ernest Peterson Jr., Algernon Peterson, Joseph Peterson, P. M. Poulsen, Ulrich Zbinden.

Paradise Irrigation & Reservoir Company, Wellsville East Field Irrigation and Canal Company, Wellsville City, a municipal corporation, Wellsville City Irrigation Company, Wellsville North Field Irrigation Company, Mendon South Canal (a corporation), Wellsville Hawbush Field Irrigation Manufacturing and Canal Company, Paradise Land and Livestock Company, Lindsay Land and Livestock Company (an Ogden Corporation), David McMurdie, Ed. J. Norman, A. O. Jackson, A. O. Jackson Jr., F. J. Law, Charles Shaw, Abraham Frederickson, Geo.W.Davis, Geo. Summers, Joseph E. Cowley, James Facer, John W. S. Brown, Wm. Bailey, Robert Maughan, Archibald Maughan, James Maughan, Charles N. Maughan, Heber L. Maughan, David Maughan, Guy Maughan, Wm. H. Maughan, Brigham Maughan, Christina Maughan, Elmer Maughan, Frank Maughan, John Brenchley, Daniel H. Maughan, Rachel Maughan, Peter Maughan, Wm. H. Darley, John A. Leishman, Joseph Hardman, Joseph T. Lofthouse; Israelson Land, Livestock and Produce Company; Jesse E. Smith, Ole N. Jensen, Joseph E. Smith, Thos. E. Williamson, Joseph R. Brown Edward Walters, Ernest A. Forsberg, John T. James, John E. Miles, Joseph S. Howells, James H. Danielson, Charlton A. Goldsberry, O. H. Pulsipher, William Pulsipher, William Pulsipher Jr., Ole Olson, T. K. Obray, G. S. Obray, E.M. Bickmore, Hyrum Hall, Edward Gibbons, Hyrum Brown, H.P. Hansen, James L.Jensen, Robert Baxter, Annie K. Lauritzen, John F. Monson, William H. Jensen, Albert Miller, Roar Allen, Paul Johnson, Samson Knowles, Edward Knowles, Alfred Anderson, J. J. Hall, David Kerr, Thomas A. Kerr, Henry Haslam, John Hughes, Rebecca C. Hughes, Sarah A. G. Hughes, Wm. Lea, Willard Parker, Violet D. Parkinson, Henry C. Parker, James Anderson, J. M. Smith,

Mendon City, Mendon Central Irrigation Company, P. A. Sorenson, Mendon North Irrigation Company,

Spring Creek Water Company, Garr Springs Water Company,

Clarkston Irrigation Company, Newton Irrigation Company,

Utah-Idaho Sugar Company, Lewiston-Bear Lake Irrigation Company, Benson-Bear Lake Irrigation Company, The Amalgamated Sugar Company, Hill Irrigation

Company, Intermountain Sugar Company, Wood Irrigation Company, D. C. Van Dyke, A. J. Hill, Olaf Cronquist, W. R. Ballard, H. W. Ballard Jr., Alma Munk, Johnathan Smith, W. D. Goodwin, Milton Bullen, Charles G. Wood, Frank Wood, D. A. Skeen, Lester Wheeler, Lloyd Wheeler, A. M. Simonds, Ed. Lower, Albert Brough, Brown Wood, A. C. Simmons, J. Q. Adams,

Defendants,

DECREE

BE IT REMEMBERED that on this day this cause comes on for further hearing by the Court, pursuant to adjournment, the parties appearing by their respective counsel. Additional proof is submitted by some of the parties, and thereupon, pursuant to stipulation of parties that judgment may be entered herein on the evidence and stipulations of parties submitted to the Court without the formality of making findings of fact or conclusions of law, such findings and conclusions being expressly waived by all of the parties whose appearance has been entered in the action either by oral consent in open court entered in the minutes or by written consent filed with the clerk, it is ordered, adjudged and decreed by the Court, as follows:

I.

1. That the Bear River is an inter-state stream with a large number of tributaries in the States of Utah, Wyoming and Idaho, said river rising in the Wasatch mountains in northeastern Utah and flowing in a general northerly direction through the States of Utah and Wyoming to a point on the boundary line between the States of Idaho and Wyoming near the town of Border in the State of Wyoming, into the State of Idaho, thence in a general northwesterly direction around the north end of Bear Lake (including North and Mud Lake) located in Bear Lake County, Idaho, and Rich County, Utah, to a point near the town of Alexander in said state of Idaho, thence in a general southerly direction through the States of Idaho and Utah, emptying into Great Salt Lake in said latter state.

That there is hereby drawn within the jurisdiction of this court, for distribution for beneficial uses, under and pursuant to the terms of this decree, all that portion of Bear River, as above described, commencing at a point where said river crosses the Utah-Idaho state line in the Northwest quarter of Section 35, Township 15 North, Range 1 West, S. L. B. & M., thence in a general southerly direction to the Wheelon Power Plant of Utah Power & Light Company in Section 27, Township 13 North, Range 2 West, together with all intervening tributaries of the Bear River, which are decreed to constitute a single inter-dependent river system, to be administered under the terms of this decree. It is also the purpose of this decree, however, to adjudicate *in personam* the relative rights of the respective parties to this action in respect to the impounding and release of the flood water of said river above the said Utah-Idaho state line, and to the use of such water, either above or below the said state line in so far as such use may conflict with other uses of the water of Bear River or its tributaries, by any of the parties to this action.

2. Subject to the prior rights of the various defendants, as hereinafter decreed in the order of their respective priorities, the said plaintiff, the Utah Power

85695

& Light Company, has the storage right hereinafter defined in paragraph 1 of the schedule of rights.

The quantity of water released from such storage and to which the plaintiff is entitled, flowing in Bear River at the Utah-Idaho State Line at any given time shall be determined as provided in the final decree of the District Court of the United States for the District of Idaho, Eastern Division, in Equity No. 203, wherein Utah Power & Light Company, the plaintiff herein, was plaintiff, and Last Chance Canal Company, Limited, et al, were defendants, a copy of which decree has been introduced in evidence in this cause; that is to say by deducting from the quantity of water being released from the Bear Lake Reservoir, consisting of Bear and Mud or North Lakes, at any given time,

(a) Such quantity of water as is being simultaneously taken from Bear River into such Reservoir,

(b) Compensation for the natural yield of Bear Lake area as defined in said decree, to be determined at measuring devices installed as provided therein as near as practical to the present bridge on the Montpelier-Ovid road, in the southwest quarter of Section 7, Township 13, South Range 44 East, Salt Lake Meridian, as follows:

From April 20th to July 1st of each year 50 cubic feet per second.
From July 1st to July 15th of each year 35 cubic feet per second.
From July 16th to Aug. 1st of each year 25 cubic feet per second.
From Aug. 1st to Sept. 15th of each year 15 cubic feet per second.

(c) Three and one-half per cent. of the quantity of such released stored waters, to allow for all transit losses between Bear Lake Reservoir and Utah-Idaho State line.

(d) Such amount of said released stored water as may be diverted between said reservoir and State line for consuming uses as distinguished from the non-consuming use of said waters by the plaintiff for power purposes.

In determining transit losses or otherwise calculating division of waters as between the natural flow of the river and released stored waters, a time lag of forty-eight hours shall be applied for the flow of released stored water from plaintiff's outlet control works at Bear Lake Reservoir to the Utah-Idaho State Line, and a proportionate time for the flow of water to or from any intervening point of diversion for a consuming use of any part of the water above the Utah-Idaho State Line.

After passing said state line such released stored waters may be conveyed through that part of the natural channel of said river covered by this decree, and shall be protected under the provisions hereof for such distribution as may be designated by the plaintiff or its successors-in-interest, to the same extent as though

kept and conveyed within an artificial channel. It shall be recognized by the officers charged with the administration of this decree that the plaintiff's right in said released stored water shall continue until abandonment by the plaintiff, and all parties to this suit, their heirs, executors, administrators, successors, successors-in-interest and assigns, and the agents, servants and attorneys of said parties, their heirs, executors, administrators, successors, successors in interest and assigns, are hereby perpetually enjoined and restrained from in any manner using or interfering with the use by the plaintiff of the said released stored waters, except with the consent and under the authority of the plaintiff, its successors and assigns.

Between the Utah-Idaho State line and the plaintiff's Wheelon Dam, situated in Section 23, Township 13 South, Range 2 West, S. L. M., an additional transit loss of one per cent shall be deducted from the volume of all such released stored water flowing past said State Line as may be delivered at said dam, allowing a time lag of twenty-four hours for the flow of the water, and proportionate deductions and calculations of time lag shall be made to cover transit losses of water diverted by or under the authority of the plaintiff between said points.

3. In addition to storage rights of plaintiff, herein decreed, the waters of Bear River and its tributaries between the points hereinbefore described, as drawn within the jurisdiction of this court for distribution under this decree, are hereby allotted and decreed for the various beneficial uses herein specified, without waste, to the plaintiff and defendants, respectively, and their successors in title and interest, in the amounts, for the purposes and in accordance with the priorities established and prescribed by the "Schedule of Rights" hereinafter defined.

The rights herein decreed and recognized are designated and classified as "Power Rights," "Irrigation Rights" and "Domestic Rights," respectively, and shall have the following characteristics:

"Power Rights" include the right to divert and use water for the generation of electric power and such rights of diversion and use are continuous throughout the year without limitation to time or season.

"Irrigation Rights" include the right to divert and use water for irrigation and agricultural purposes and as a part thereof for culinary, domestic and stock watering purposes throughout the irrigation season of each year, which is defined as that portion of each calendar year which commences on the 1st day of April and closes on the 30th day of September. The water allotted and decreed to the parties hereto for irrigation purposes shall be used upon the land upon which the same is now applied and used as described in the schedule, subject, however, to the rights of appropriators or shareholders in any appropriating company to change the place of diversion or use or manner of use, as provided by law.

Nothing herein contained shall be construed as limiting the right of the parties hereto by agreement between all parties in interest, to use the water herein decreed to those parties respectively, by rotation among themselves at such time and in such manner as they may determine, provided that in so doing they do not infringe upon the rights of other appropriators as herein described.

The several parties hereto are also hereby adjudged and decreed to have the right to divert and use so much of the water of said streams during the non-irrigation season, i. e., between the 1st day of October and the 31st day of the succeeding March as they may reasonably require for their domestic, culinary and stock watering uses. Nothing herein contained shall affect specific allottments made in the schedule of rights under appropriations for domestic, culinary or other specific beneficial purposes, which rights are to be recognized and administered specifically as decreed.

All rights herein decreed to the plaintiff and the several defendants are decreed for the beneficial uses specified, and none of the parties hereto, or their successors in interest, whether heirs, executors, administrators,successors or assigns,shall have the right to divert any of the waters of said Bear River, or any of its tributaries, except for beneficial use, and whenever any party or parties ceases to use the same for such beneficial purpose, such party or parties shall cease to divert, and shall have no right to divert the said waters, or any part thereof, during such period of non-use and each and every of the parties hereto, their servants, attorneys, employes and successors in interest, as aforesaid, are hereby enjoined and restrained from any and all interference with or diversion or use of said waters, except in the manner, and to the extent, and for the purposes, provided in this decree, whenever such interference, diversion or use would interfere with the diversion or use of the water awarded by this decree to any of the other parties to this action.

The parties hereto and their successors in interest shall install and maintain suitable and efficient headgates, controlling works, and measuring devices at their respective points of diversion, and all water herein allotted and decreed shall be measured at said points of diversion. Said works and devices shall be built and installed in accordance with plans and specifications to be approved by the state official charged with the duty of supervising the distribution of water, (subject to review by this court). All such devices shall be of such design as to accurately register the amount of water diverted, and in the case of ditches diverting fifty or more cubic feet per second, automatic measuring and registering devices shall be installed and maintained. All such headgates, control works and measuring devices and gauges shall at all times be subject to the inspection of either party, and to public officials or water masters having jurisdiction over the distribution and diversion of water, and no dam or other obstruction to the natural flow of the stream shall be

85695

maintained so as to divert water from the channel of the stream, except through ditches, canals or other works provided with such headgates, control works and measuring devices, and each of the parties hereto shall be perpetually enjoined from diverting from the channel of the stream or its tributaries any water through any ditch, conduit or other devices not provided with such headgates, control works and measuring device; *provided,* that in case of diversions through pipes for power purposes, measuring devices may be dispensed with where the quantity of water diverted may be otherwise determined by calculations based on power output or current meter measurements

4. Subject to the power and duty of this Court to supervise and enforce the administration of this decree. from time to time as occasion may require, and to that end to appoint special commissioners, whenever necessary, so to do, for which jurisdiction is hereby expressly reserved, the State Engineer of Utah and his duly appointed deputies and assistants, or such other state officer as may be charged by law with the distribution of the water of said river system or such water commissioners as this court may hereafter appoint, shall administer this decree and distribute the water of said stream and its tributaries among the several appropriators thereof, in accordance with the provisions of this decree and the statutes of Utah and the costs and expenses of such administration shall be defrayed as provided by law or by subsequent order of this Court.

II.

("Schedule of Rights")

c.f.s. is used throughout this schedule to designate a flow of one cubic foot of water per second of time.

ac. ft. is used throughout this schedule to designate a quantity of water sufficient to cover an area of one acre to a depth of one foot, or 43,560 cubic feet of water.

MAIN RIVER DIVERSIONS.

1. *Utah Power & Light Company*—Storage rights.

The plaintiff, Utah Power & Light Company, is entitled to divert from the main channel of Bear River from the natural flow thereof, for storage purposes, the following amounts:

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
1911—March 1 1912—Sept. 11	3000 c.f.s. 2500 c.f.s.	Said water to be diverted from Bear River through what is known as the Rainbow and Dingle Inlet Canals, the headworks of which are located respectively in the North east quarter of Section 34, Township 13 South, Range 44 East, B.B.M. and the northwest quarter of Section 17, Township 14 South, Range 45 East, B. B. M. in Bear Lake Co., Ida., and to be carried into and stored in what is known as the Bear Lake Reservoir and withdrawn therefrom from time to time as needed or required by said Utah Power & Light Company, or its successors in interest, for the development of power or generating electric energy in any power plant which it may now have, or hereafter construct or acquire in or along Bear River, in the states of Idaho and Utah, and for irrigation purposes in what is generally known as Bear River Valley in said states.
From Bear Lake: 1912—Sept. 1 *From Mud Lake*: 1912—Sept. 1	 300 c.f.s. 200 c.f.s.	Said water to be stored in what is known as Bear Lake Reservoir, and withdrawn therefrom from time to time, as provided in the immediately preceding paragraph.
2. *Lewiston-Bear Lake Irrigation Company*: 1914—Dec. 11	 100 c.f.s.	Said water to be diverted from the natural flow of Bear River (except as provided by contract heretofore entered into between the plaintiff and this defendant) at a point

Notes:

Pages 11-68 of the Kimball Decree have been omitted from this copy in Attachment R. The copy continues below, beginning on page 69 of the decree.

Date of Priority	Amount in Second Feet	Point of Diversion and Place of Use
		Township 13 North Range 2 West, S. L. M. Said water to be used by said company 5 days in each period of 20 days during the irrigation season of each year and is to be used by Clarkston Irrigation District 15 days in each such period as provided in the immediately preceding paragraph.
(b) 1873—May 1	2000 ac. ft.	Said water to be diverted from the flood waters of Clarkston Creek ,a tributary of Bear River, and impounded in a reservoir situated in the channel of said creek in Sections 35 and 36, Township 14 North, Range 1 West, S. L. M., and released and used as desired by said Newton Irrigation Company for the irrigation of its lands described in paragraph (a) immediately above.

Provided, however, that notwithstanding this schedule of Rights, users of water under this decree shall at no time divert more water than can be beneficially used, and waste of water is hereby prohibited and enjoined.

III.

The following parties to this suit, having been duly served with summons in this action and having either filed disclaimer or no answer, motion or other appearance or pleading herein, and their default having been regularly entered are adjudged and decreed to have no right, title, interest or claim in or to any of the waters of Bear River, or its tributaries, and said parties, their agents, servants, attorneys, successors in interest and assigns, are perpetually enjoined from diverting or using any of the waters of Bear River, or its tributaries except as they may hereafter initiate or acquire rights to the use of said waters:

Joseph Nelson, Samuel Nelson, Samuel Tout, Thomas Miles, Leroy Nelson, Joel Nelson, R. T. Merrill, Abraham Jorgensen, Wm. Affleck, Mariner S. Eccles, L. D. McBride, O. M. Wilson, Geo. H. Nichols, Claude Nichols, J. S. Goldsberry, Jas. McMurdie, Jos. White, Roy Baxter, I. J. Frampton, Nancy L. Goldsberry, C. W. Anderson, Abe Smith, W. H. Ballard, Marcus Rogers, W. H. Thain, W. A. Bowman, J. D. Skeen, Mendon South Pasture Company.

The following parties to this action, to-wit: John H. Peterson, Carl Rasmussen, Lee Nelson, Abraham Smith, Daniel Cash, Wickliff Ewing, Peterson Farm & Live-

stock Company, H. W. Ballard, John G. Ricks, Mrs. Lemuel Rogers, John Quayle, O. C. Blumell, Orson G. Salverson, Wm. B. Batt, Eugene Schaub, A. B. Wilson, Wm. Bartlett, Priscilla Olson, Nels Rasmussen, having regularly appeared herein by cross complaint or other pleading and having failed to submit proof in support of their claims, it is hereby ORDERED, ADJUDGED AND DECREED that said parties take nothing by their said cross complaint, and that they have no right, title, interest or claim in or to any of the waters of Bear River, or its tributaries, and said parties, their agents, servants, attorneys, successors in interest and assigns, are perpetually enjoined from diverting or using any of the waters of said Bear River or its tributaries, except as they may hereafter initiate or acquire rights to the use of said waters.

IT IS FURTHER ORDERED ADJUDGED AND DECREED that A. M. Israelson has no right, title, interest or claim in or to any of the waters of Bear River or its tributaries, except as a stockholder of Israelson Land, Livestock & Produce Company; that Isaac Sorenson, Jeremiah Baker, Phineas Bird, Mormon Bird, De-Las Bird, Andrew Anderson, Jens Jensen,and George Lemons, have no right, title, interest or claim in or to any of the said waters, except as stockholders of Mendon Central Irrigation Company; that Roy H. Briggs and Riley E. Allred have no right, title or interest in or to the waters of Bear River except as stockholders of Wood Irrigation Company; and that said parties and each and every one of them, their agents, servants, attorneys, successors in interest and assigns, are perpetually enjoined from diverting or using any of the waters of Bear River or its tributaries, except as they may hereafter initiate or acquire rights to the use of said waters and except as they may be entitled to the use ofwater by reason of their interest in said Israelson Land, Livestock & Produce Company, and Mendon Central Irrigation Company, and Wood Irrigation Company.

It is further ordered and adjudged that the plaintiff do have and recover of and from each defendant in this action, having rights in and to the use of the waters of said river and its tributaries, as herein decreed, the sum of $1.77 being his or her proportionate share of the costs and expenses incurred by the plaintiff for clerk's costs, service of summons and the printing of this decree, hereby taxed in the total sum of $588.80. Further, that the cost of the reference of certain matters herein to a referee shall be assessed by subsequent order of the Court, among the parties whose rights were in issue in such reference.

The court hereby retains jurisdiction, however, at all times, and from time to time, to make all reasonable rules touching the manner of diverting, measuring and distributing the waters, and the devices to be installed and used for such purposes where it may be impracticable to fully comply with the terms of this decree, and to direct that the parties keep accurate and detailed records of the amounts

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of water diverted, and to require reportsto be filed from time to time of the amount so diverted, and generally to make such orders as may be found reasonably necessary to give effect to this decree, and to appoint commissioners or watermasters to make distribution in accordance with its terms, and to punish the parties hereto, their officers, agent and employes, and their grantees and successors in interest, for any violation of the provisions thereof.

Done in open court this 21st day of February, 1922.

JAMES N. KIMBALL, Judge.

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BEAR RIVER COMPACT

AS AMENDED

Amended Compact unanimously approved
December 22, 1978
by
the duly appointed Commissioners
from those states of Idaho, Utah and Wyoming

Ratified
by the Legislatures of all three states in 1979

Congressional Consent Public Law 96-189
February 8, 1980

TABLE OF CONTENTS

Compact			Page
Article I	—	Statement of Purpose	1
Article II	—	Definition of Terms	1
Article III	—	Bear River Commission	4
Article IV	—	Allocation of Direct Flow	5
Article V	—	Lower Division Allocation	7
Article VI	—	Allocation of Storage	8
Article VII	—	New Projects	10
Article VIII	—	Rights in Other Signatory States	10
Article IX	—	Conveyance of Stored Water between States	11
Article X	—	Rights in Interstate Canals	11
Article XI	—	Applications for Appropriation, Etc.	12
Article XII	—	Legal Actions and Proceedings	12
Article XIII	—	Existing Rights of United States	12
Article XIV	—	Review of Compact Provisions	12
Article XV	—	Termination	13
Article XVI	—	Severability	13
Article XVII	—	Ratification and Effective Date	13

Public Law 96-189
96th Congress

An Act

Feb 8, 1980
[H.R. 4320]

To consent to the amended Bear River Compact between the States of Utah, Idaho, and Wyoming.

Bear River Compact Congressional consent

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the consent of Congress is given to the amended Bear River Compact between the States of Idaho, Utah, and Wyoming. Such compact reads as follows:

AMENDED BEAR RIVER COMPACT

Amended agreement by Idaho, Utah and Wyoming

The State of Idaho, the State of Utah and the State of Wyoming, acting through their respective Commissioners after negotiations participated in by a representative of the United States of America appointed by the President, have agreed to an Amended Bear River Compact as follows:

ARTICLE I

A. The major purposes of this Compact are to remove the causes of present and future controversy over the distribution and use of the waters of the Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of the Bear River among the compacting States.

B. The physical and all other conditions peculiar to the Bear River constitute the basis for this Compact. No general principle or precedent with respect to any other interstate stream is intended to be established.

ARTICLE II

Definitions

As used in this Compact the term

1. "Bear River" means the Bear River and its tributaries from its source in the Uinta Mountains to its mouth in Great Salt Lake;
2. "Bear Lake" means Bear Lake and Mud Lake;
3. "Upper Division" means the portion of Bear River from its source in the Uinta Mountains to and including Pixley Dam, a diversion dam in the Southeast Quarter of Section 25, Township 23 North, Range 120 West, Sixth Principal Meridian, Wyoming;
4. "Central Division" means the portion of Bear River from Pixley Dam to and including Stewart Dam, a diversion dam in Section 34, Township 13 South, Range 44 East, Boise Base and Meridian, Idaho;
5. "Lower Division" means the portion of the Bear River between Stewart Dam and Great Salt Lake, including Bear Lake and its tributary drainage;
6. "Upper Utah Section Diversions" means the sum of all diversions in second-feet from the Bear River and the tributaries of the Bear River joining the Bear River

upstream from the point where the Bear River crosses the Utah-Wyoming State line above Evanston, Wyoming; excluding the diversions by the Hilliard East Fork Canal, Lannon Canal, Lone Mountain Ditch, and Hilliard West Side Canal;

7. "Upper Wyoming Section Diversions" means the sum of all diversions in second-feet from the Bear River main stem from the point where the Bear River crosses the Utah-Wyoming State line above Evanston, Wyoming, to the point where the Bear River crosses the Wyoming-Utah State line east of Woodruff, Utah, and including the diversions by the Hilliard East Fork Canal, Lannon Canal, Lone Mountain Ditch, and Hilliard West Side Canal;
8. "Lower Utah Section Diversions" means the sum of all diversions in second-feet from the Bear River main stem from the point where the Bear River crosses the Wyoming-Utah State line east of Woodruff, Utah, to the point where the Bear River crosses the Utah-Wyoming State line northeast of Randolph, Utah;
9. "Lower Wyoming Section Diversions" means the sum of all diversions in second-feet from the Bear River main stem from the point where the Bear River crosses the Utah-Wyoming State line northeast of Randolph to and including the diversion at Pixley Dam;
10. "Commission" means the Bear River Commission, organized pursuant to Article III of this Compact;
11. "Water user" means a person, corporation, or other entity having a right to divert water from the Bear River for beneficial use;
12. "Second-foot" means a flow of one cubic foot of water per second of time passing a given point;
13. "Acre-foot" means the quantity of water required to cover one acre to a depth of one foot, equivalent to 43,560 cubic feet;
14. "Biennium" means the 2-year period commencing on October 1 of the first odd-numbered year after the effective date of this Compact and each 2-year period thereafter;
15. "Water year" means the period beginning October 1 and ending September 30 of the following year;
16. "Direct flow" means all water flowing in a natural watercourse except water released from storage or imported from a source other than the Bear River watershed;
17. "Border Gaging Station" means the stream flow gaging station in Idaho on the Bear River above Thomas Fork near the Wyoming-Idaho boundary line in the Northeast Quarter of the Northeast Quarter of Section 15, Township 14 South, Range 46 East, Boise Base and Meridian, Idaho;
18. "Smiths Fork" means a Bear River tributary which rises in Lincoln County, Wyoming, and flows in a general southwesterly direction to its confluence with Bear River near Cokeville, Wyoming;
19. "Grade Creek" means a Smiths Fork tributary which rises in Lincoln County, Wyoming, and flows in a westerly direction and in its natural channel is tributary to Smiths Fork in Section 17, Township 25 North, Range 118 West, Sixth Principal Meridian, Wyoming;
20. "Pine Creek" means a Smiths Fork tributary which rises in Lincoln County, Wyoming, emerging from its mountain canyon in Section 34, Township 25 North, Range 118 West, Sixth Principal Meridian, Wyoming, and in its natural channel is tributary to Smiths Fork in Section 36, Township 25 North, Range 119 West, Sixth Principal Meridian, Wyoming;
21. "Bruner Creek" and "Pine Creek Springs" means Smiths Fork tributaries which rise

in Lincoln County, Wyoming, in Sections 31 and 32, Township 25 North, Range 118 West, Sixth Principal Meridian, and in their natural channels are tributary to Smiths Fork in Section 36, Township 25 North, Range 119 West, Sixth Principal Meridian, Wyoming;

22. "Spring Creek" means a Smiths Fork tributary which rises in Lincoln County, Wyoming, in Sections 1 and 2, Township 24, Range 119 West, Sixth Principal Meridian, Wyoming, and flows in a general westerly direction to its confluence with Smiths Fork in Section 4, Township 24 North, Range 119 West, Sixth Principal Meridian, Wyoming;
23. "Sublette Creek" means the Bear River tributary which rises in Lincoln County, Wyoming, and flows in a general westerly direction to its confluence with Bear River in Section 20, Township 24 North, Range 119 West, Sixth Principal Meridian, Wyoming;
24. "Hobble Creek" means the Smiths Fork tributary which rises in Lincoln County, Wyoming, and flows in a general southwesterly direction to its confluence with Smiths Fork in Section 35, Township 28 North, Range 118 West, Sixth Principal Meridian, Wyoming;
25. "Hilliard East Fork Canal" means that irrigation canal which diverts water from the right bank of the East Fork of Bear River in Summit County, Utah, at a point West 1,310 feet and North 330 feet from the Southeast corner of Section 16, Township 2 North, Range 10 East, Salt Lake Base and Meridian, Utah, and runs in a northerly direction crossing the Utah-Wyoming State line into the Southwest Quarter of Section 21, Township 12 North, Range 119 West, Sixth Principal Meridian, Wyoming;
26. "Lannon Canal" means that irrigation canal which diverts water from the right bank of the Bear River in Summit County, Utah, East 1,480 feet from the West Quarter corner of Section 19, Township 3 North, Range 10 East, Salt Lake Base and Meridian, Utah, and runs in a northerly direction crossing the Utah-Wyoming State line into the South Half of Section 20, Township 12 North, Range 119 West, Sixth Principal Meridian, Wyoming;
27. "Lone Mountain Ditch" means that irrigation canal which diverts water from the right bank of the Bear River in Summit County, Utah, North 1,535 feet and East 1,120 feet from the West Quarter corner of Section 19, Township 3 North, Range 10 East, Salt Lake Base and Meridian, Utah, and runs in a northerly direction crossing the Utah-Wyoming State line into the South Half of Section 20, Township 12 North, Range 119 West, Sixth Principal Meridian, Wyoming;
28. "Hilliard West Side Canal" means that irrigation canal which diverts water from the right bank of the Bear River in Summit County, Utah, at a point North 2,190 feet and East 1,450 feet from the South Quarter corner of Section 13, Township 3 North, Range 9 East, Salt Lake Base and Meridian, Utah, and runs in a northerly direction crossing the Utah-Wyoming State line into the South Half of Section 20, Township 12 North, Range 119 West, Sixth Principal Meridian, Wyoming;
29. "Francis Lee Canal" means that irrigation canal which diverts water from the left bank of the Bear River in Uinta County, Wyoming, in the Northeast Quarter corner of Section 30, Township 18 North, Range 120 West, Sixth Principal Meridian, Wyoming, and runs in a westerly direction across the Wyoming-Utah State line into Section 16, Township 9 North, Range 8 East, Salt Lake Base and Meridian, Utah;
30. "Chapman Canal" means that irrigation canal which diverts water from the left bank of the Bear River in Uinta County, Wyoming, in the Northeast Quarter of

Section 36, Township 16 North, Range 121 West, Sixth Principal Meridian, Wyoming, and runs in a northerly direction crossing over the low divided into the Saleratus drainage basin near the Southeast corner of Section 36, Township 17 North, Range 121 West, Sixth Principal Meridian, Wyoming, and then in a general westerly direction crossing the Wyoming-Utah State line;

31. "Neponset Reservoir" means that reservoir located principally in Sections 34 and 35, Township 8 North, Range 7 East, Salt Lake Base and Meridian, Utah, having a capacity of 6,900 acre-feet.

ARTICLE III

Bear River Commission, establishment and membership

A. There is hereby created an interstate administrative agency to be known as the "Bear River Commission" which is hereby constituted a legal entity and in such name shall exercise the powers hereinafter specified. The Commission shall be composed of nine Commissioners, three Commissioners representing each signatory State, and if appointed by the President, one additional Commissioner representing the United States of America who shall serve as chairman, without vote. Each Commissioner, except the chairman, shall have one vote. The State Commissioners shall be selected in accordance with State law. Six Commissioners who shall include two Commissioners from each State shall constitute a quorum. The vote of at least two-thirds of the Commissioners when a quorum is present shall be necessary for the action of the Commission.

Compensation and expenses

B. The compensation and expenses of each Commissioner and each adviser shall be paid by the government which he represents. All expenses incurred by the Commission in the administration of this Compact, except those paid by the United States of America, shall be paid by the signatory States on an equal basis.

Powers

C. The Commission shall have power to:

1. Adopt bylaws, rules, and regulations not inconsistent with this Compact;
2. Acquire, hold, convey or otherwise dispose of property;
3. Employ such persons and contract for such services as may be necessary to carry out its duties under this Compact;
4. Sue and be sued as a legal entity in any court of record of a signatory State, and in any court of the United States having jurisdiction of such action;
5. Co-operate with State and Federal agencies in matters relating to water pollution of interstate significance;
6. Perform all functions required of it by this Compact and do all things necessary, proper or convenient in the performance of its duties hereunder, independently or in co-operation with others, including State and Federal agencies.

D. The Commission shall:

1. Enforce this Compact and its order made hereunder by suit or other appropriate action;

Report, transmittal to President and Governors

2. Compile a report covering the work of the Commission and expenditures during the current biennium, and an estimate of expenditures for the following biennium and transmit it to the President of the United States and to the Governors of the signatory States on or before July 1 following each biennium.

ARTICLE IV

Water rights, limitations

Rights to direct flow water shall be administered in each signatory State under State law, with the following limitations:

A. When there is a water emergency, as hereinafter defined for each division, water shall be distributed therein as provided below.

1. Upper Division

a. When the divertible flow as defined below for the Upper Division is less than 1,250 second-feet, a water emergency shall be deemed to exist therein and such divertible flow is allocated for diversion in the river sections of the Division as follows:

Upper Utah Section Diversions	0.6 percent
Upper Wyoming Section Diversions	49.3 percent
Lower Utah Section Diversions	40.5 percent
Lower Wyoming Section Diversions	9.6 percent

Such divertible flow shall be the total of the following five items:

(1) Upper Utah Section Diversions in second-feet
(2) Upper Wyoming Section Diversions in second-feet
(3) Lower Utah Section Diversions in second-feet
(4) Lower Wyoming Section Diversions in second-feet
(5) The flow in second-feet passing Pixley Dam

b. The Hilliard East Fork Canal, Lannon Canal, Lone Mountain Ditch, and Hilliard West Side Canal, which divert water in Utah to irrigate lands in Wyoming, shall be supplied from the divertible flow allocated to the Upper Wyoming Section Diversions.

c. The Chapman, Bear River, and Francis Lee Canals, which divert water from the main stem of Bear River in Wyoming to irrigate lands in both Wyoming and Utah, shall be supplied from the divertible flow allocated to the Upper Wyoming Section Diversions.

d. The Beckwith Quinn West Side Canal, which diverts water from the main stem of Bear River in Utah to irrigate lands in both Utah and Wyoming, shall be supplied from the divertible flow allocated to the Lower Utah Section Diversions.

e. If for any reason the aggregate of all diversions in a river section of the Upper Division does not equal the allocation of water thereto, the unused portion of such allocation shall be available for use in the other river sections in the Upper Division in the following order: (1) In the other river section of the same State in which the unused allocation occurs; and (2) in the river sections of the other State. No permanent right of use shall be established by the distribution of water pursuant to this paragraph e.

f. Water allocated to the several sections shall be distributed in each section in accordance with State law.

2. Central Division

a. When either the divertible flow as hereinafter defined for the Central Division is less than 870 second-feet, or the flow of the Bear River at Border Gaging Station is less than 350 second-feet, whichever shall first occur, a water emergency shall be deemed to exist in the Central Division and the total of all diversions in Wyoming from Grade Creek, Pine Creek, Bruner Creek and Pine Creek Springs, Spring Creek, Sublette Creek, Smiths

Fork, and all the tributaries of Smiths Fork above the mouth of Hobble Creek including Hobble Creek, and from the main stem of the Bear River between Pixley Dam and the point where the river crosses the Wyoming-Idaho State line near Border shall be limited for the benefit of the State of Idaho, to not exceed forty-three (43) percent of the divertible flow. The remaining fifty-seven (57) percent of the divertible flow shall be available for use in Idaho in the Central Division, but if any portion of such allocation is not used therein it shall be available for use in Idaho in the Lower Division.

The divertible flow for the Central Division shall be the total of the following three items:

(1) Diversions in second-feet in Wyoming consisting of the sum of all diversions from Grade Creek, Pine Creek, Bruner Creek and Pine Creek Springs, Spring Creek, Sublette Creek, and Smiths Fork and all the tributaries of Smiths Fork above the mouth of Hobble Creek including Hobble Creek, and the main stem of the Bear River between Pixley Dam and the point where the river crosses the Wyoming-Idaho State line near Border, Wyoming.

(2) Diversions in second-feet in Idaho from the Bear River main stem from the point where the river crosses the Wyoming-Idaho State line near Border to Stewart Dam including West Fork Canal which diverts at Stewart Dam.

(3) Flow in second-feet of the Rainbow Inlet Canal and of the Bear River passing downstream from Stewart Dam.

b. The Cook Canal, which diverts water from the main stem of the Bear River in Wyoming to irrigate lands in both Wyoming and Idaho, shall be considered a Wyoming diversion and shall be supplied from the divertible flow allocated to Wyoming.

c. Water allocated to each State shall be distributed in accordance with State law.

3. Lower Division

a. When the flow of water across the Idaho-Utah boundary line is insufficient to satisfy water rights in Utah, covering water applied to beneficial use prior to January 1, 1976, any water user in Utah may file a petition with the Commission alleging that by reason of diversions in Idaho he is being deprived of water to which he is justly entitled, and that by reason thereof, a water emergency exists, and requesting distribution of water under the direction of the Commission. If the Commission finds a water emergency exists, it shall put into effect water delivery schedules based on priority of rights and prepared by the Commission without regard to the boundary line for all or any part of the Division, and during such emergency, water shall be delivered in accordance with such schedules by the State official charged with the administration of public waters.

Emergency declaration authority

B. The Commission shall have authority upon its own motion (1) to declare a water emergency in any or all river divisions based upon its determination that there are diversions which violate this Compact and which encroach upon water rights in a lower State, (2) to make appropriate orders to prevent such encroachments, and (3) to enforce such orders by action before State administrative officials or by court proceedings.

User's water rights, petition filing

C. When the flow of water in an interstate tributary across a State boundary line is insufficient to satisfy water rights on such tributary in a lower State, any water user may file a petition with the Commission alleging that by reason of diversions in an upstream State he is being deprived of water to which he is justly entitled and that by reason thereof a water emergency exists, and requesting distribution of water under the direction of the Commission. If the Commission finds that a water emergency exists and that interstate control of water of such tributary is necessary, it shall put into effect water delivery schedules based on priority of rights and prepared without regard to the State boundary line. The State officials in charge of water distribution on interstate tributaries may appoint and fix the compensation and expenses of a joint water commissioner for each tributary. The proportion of the compensation and expenses to be paid by each State shall be determined by the ratio between the number of acres therein which are irrigated by diversions from such tributary, and the total number of acres irrigated from such tributary.

Water delivery schedules

Joint water commissioner

Interstate water delivery schedules, findings of fact

D. In preparing interstate water delivery schedules the Commission, upon notice and after public hearings, shall make findings of fact as to the nature, priority, and extent of water rights, rates of flow, duty of water, irrigated acreages, types of crops, time of use, and related matters; provided that such schedules shall recognize and incorporate therein priority of water rights as adjudicated in each of the signatory States. Such findings of fact shall, in any court or before any tribunal, constitute prima facie evidence of the facts found.

Prima facie evidence

Emergency termination

E. Water emergencies provided for herein shall terminate on September 30 of each year unless terminated sooner or extended by the Commission.

ARTICLE V

Lower Division water rights, Idaho and Utah

A. Water rights in the Lower Division acquired under the laws of Idaho and Utah covering water applied to beneficial use prior to January 1, 1976, are hereby recognized and shall be administered in accordance with State law based on priority of rights as provided in Article IV, paragraph A3. Rights to water first applied to beneficial use on or after January 1, 1976, shall be satisfied from the respective allocations made to Idaho and Utah in this paragraph and the water allocated to each State shall be administered in accordance with State law. Subject to the foregoing provisions, the remaining water in the Lower Division, including ground water tributary to the Bear River, is hereby apportioned for use in Idaho and Utah as follows:

(1) Idaho shall have the first right to the use of such remaining water resulting in an annual depletion of not more than 125,000 acre-feet.

(2) Utah shall have the second right to the use of such remaining water resulting in an annual depletion of not more than 275,000 acre-feet.

(3) Idaho and Utah shall each have an additional right to deplete annually on an equal basis, 75,000 acre-feet of the remaining water after the rights provided by subparagraphs (1) and (2) above have been satisfied.

(4) Any remaining water in the Lower Division after the allocations provided for in subparagraphs (1), (2), and (3) above have been satisfied shall be divided; thirty (30) percent to Idaho and seventy (70) percent to Utah.

Allocation charge

B. Water allocated under the above subparagraphs shall be charged against the State in which it is used regardless of the location of the point of diversion.

Depletions

C. Water depletions permitted under provisions of subparagraphs (1), (2), (3), and (4) above, shall be calculated and administered by a Commission-approved procedure.

ARTICLE VI

Reservoir storage rights

A. Existing storage rights in reservoirs constructed above Stewart Dam prior to February 4, 1955, are as follows:

Idaho ..... 324 acre-feet
Utah ..... 11,850 acre-feet
Wyoming ..... 2,150 acre-feet

Additional rights are hereby granted to store in any water year above Stewart Dam, 35,500 acre-feet of Bear River water and no more under this paragraph for use in Utah and Wyoming; and to store in any water year in Idaho or Wyoming on Thomas Fork 1,000 acre-feet of water for use in Idaho. Such additional storage rights shall be subordinate to, and shall not be exercised when the effect thereof will be to impair or interfere with (1) existing direct flow rights for consumptive use in any river division and (2) existing storage rights above Stewart Dam, but shall not be subordinate to any right to store water in Bear Lake or elsewhere below Stewart Dam. One-half of the 35,500 acre-feet of additional storage right above Stewart Dam so granted to Utah and Wyoming is hereby allocated to Utah, and the remaining one-half thereof is allocated to Wyoming.

Additional storage rights

B. In addition to the rights defined in Paragraph A of this Article, further storage entitlements above Stewart Dam are hereby granted. Wyoming and Utah are granted an additional right to store in any year 70,000 acre-feet of Bear River water for use in Utah and Wyoming to be divided equally; and Idaho is granted an additional right to store 4,500 acre-feet of Bear River water in Wyoming or Idaho for use in Idaho. Water rights granted under this paragraph and water appropriated, including ground water tributary to Bear River, which is applied to beneficial use on or after January 1, 1976, shall not result in an annual increase in depletion of the flow of the Bear River and its tributaries above Stewart Dam of more than 28,000 acre-feet in excess of the depletion as of January 1, 1976. Thirteen thousand (13,000) acre-feet of the additional depletion above Stewart Dam is allocated to each of Utah and Wyoming, and two thousand (2,000) acre-feet is allocated to Idaho.

Limitations

The additional storage rights provided for in this paragraph shall be subordinate to, and shall not be exercised when the effect thereof will be to impair or interfere with (1) existing direct flow rights for consumptive use in any river division and (2) existing storage rights above Stewart Dam, but shall not be subordinate to any right to store water in Bear Lake or elsewhere below Stewart Dam; provided, however, there shall be no diversion of water to storage above Stewart Dam under this Paragraph B when the water surface elevation of Bear Lake is below 5,911.00

feet, Utah Power & Light Company datum (the equivalent of elevation 5,913.75 feet based on the sea level datum of 1929 through the Pacific Northwest Supplementary Adjustment of 1947). Water depletions permitted under this Paragraph B shall be calculated and administered by a Commission-approved procedure.

C. In addition to the rights defined in Article VI, Paragraphs A and B, Idaho, Utah and Wyoming are granted the right to store and use water above Stewart Dam that otherwise would be bypassed or released from Bear Lake at times when all other direct flow and storage rights are satisfied. The availability of such water and the operation of reservoir space to store water above Bear Lake under this paragraph shall be determined by a Commission-approved procedure. The storage provided for in this paragraph shall be subordinate to all other storage and direct flow rights in the Bear River. Storage rights under this paragraph shall be exercised with equal priority on the following basis: six (6) percent thereof to Idaho; forty-seven (47) percent thereof to Utah; and forty-seven (47) percent thereof to Wyoming.

Irrigation reserve

D. The waters of Bear Lake below elevation 5,912.91 feet, Utah Power and Light Company Bear Lake datum (the equivalent of elevation 5,915.66 feet based on the sea level datum of 1929 through the Pacific Northwest Supplementary Adjustment of 1947) shall constitute a reserve for irrigation. The water of such reserve shall not be released solely for the generation of power, except in emergency, but after release for irrigation it may be used in generating power if not inconsistent with its use for irrigation. Any water in Bear Lake in excess of that constituting the irrigation reserve may be used for the generation of power or for other beneficial uses. As new reservoir capacity above the Stewart Dam is constructed to provide additional storage pursuant to Paragraph A of this Article, the Commission shall make a finding in writing as to the quantity of additional storage and shall thereupon make an order increasing the irrigation reserve in accordance with the following table:

Additional Storage (acre-feet)	Lake surface elevation Utah Power and Light Company Bear Lake datum
5,000	5,913.24
10,000	5,913.56
15,000	5,913.87
20,000	5,914.15
25,000	5,914.41
30,000	5,914.61
35,500	5,914.69
36,500	5,914.70

E. Subject to existing rights, each State shall have the use of water, including ground water, for ordinary domestic and stock watering purposes, as determined by State law and shall have the right to impound water for such proposes in reservoirs having storage capacities not in excess, in any case, of 20 acre-feet, without deduction from the allocation made by paragraphs A, B, and C of this Article.

F. The storage rights in Bear Lake are hereby recognized and confirmed subject only to the restrictions hereinbefore recited.

ARTICLE VII

Development projects

It is the policy of the signatory States to encourage additional projects for the development of the water resources of the Bear River to obtain the maximum beneficial use of water with a minimum of waste, and in furtherance of such policy, authority is granted within the limitations provided by this Compact to investigate, plan, construct, and operate such projects without regard to State boundaries, provided that water rights for each such project shall, except as provided in Article VI, paragraphs A and B, thereof, be subject to rights theretofore initiated and in good standing.

ARTICLE VIII

Water rights, acquisition

A. No State shall deny the right of the United States of America, and subject to the conditions hereinafter contained, no State shall deny the right of another signatory State, any person or entity of another signatory State, to acquire rights to the use of water or to construct or to participate in the construction and use of diversion works and storage reservoirs with appurtenant works, canals, and conduits in one State for use of water in another State, either directly or by exchange. Water rights acquired for out-of-state use shall be appropriated in the State where the point of diversion is located in the manner provided by law for appropriation of water for use within such State.

Property rights, acquisition

B. Any signatory State, any person or any entity of any signatory State, shall have the right to acquire in any other signatory State such property rights as are necessary to the use of water in conformity with this Compact by donation, purchase, or, as hereinafter provided through the exercise of the power of eminent domain in accordance with the law of the State in which such property is located. Any signatory State, upon the written request of the Governor of any other signatory State for the benefit of whose water users property is to be acquired in the State to which such written request is made, shall proceed expeditiously to acquire the desired property either by purchase at a price acceptable to the requesting Governor, or if such purchase cannot be made, then through the exercise of its power of eminent domain and shall convey such property to the requesting State or to the person or entity designated by its Governor, provided that all costs of acquisition and expenses of every kind and nature whatsoever incurred in obtaining such property shall be paid by the requesting State or the person or entity designated by its Governor.

Facilities, State authority

C. Should any facility be constructed in a signatory State by and for the benefit of another signatory State or persons or entities therein, as above provided, the construction, repair, replacement, maintenance and operation of such facility shall be subject to the laws of the State in which the facility is located.

Facilities, taxation

D. In the event lands or other taxable facilities are acquired by a signatory State in another signatory State for the use and benefit of the former, the users of the water made available by such facilities, as a condition precedent to the use thereof, shall pay to the political subdivisions of the State in which such facilities are located,

each and every year during which such rights are enjoyed for such proposes, a sum of money equivalent to the average of the amount of taxes annually levied and assessed against the land and improvements thereon during the ten years preceding the acquisition of such land. Said payments shall be in full reimbursement for the loss of taxes in such political subdivision of the State.

E. Rights to the use of water acquired under this Article shall in all respects be subject to this Compact.

ARTICLE IX

Water exchanges

Stored water, or water from another watershed may be turned into the channel of the Bear River in one State and a like quantity, with allowance for loss by evaporation, transpiration, and seepage, may be taken out of the Bear River in another State either above or below the point where the water is turned into the channel, but in making such exchange the replacement water shall not be inferior in quality for the purpose used or diminished in quantity. Exchanges shall not be permitted if the effect thereof is to impair vested rights or to cause damage for which no compensation is paid. Water from another watershed or source which enters the Bear River by actions within a State may be claimed exclusively by that State and use thereof by that State shall not be subject to the depletion limitations of Articles IV, V and VI. Proof of any claimed increase in flow shall be the burden of the State making such claim, and it shall be approved only by the unanimous vote of the Commission.

ARTICLE X

Interstate canals, water use

A. The following rights to the use of Bear River water carried in interstate canals are recognized and confirmed.

Name of Canal	Date of priority	Primary right second-feet	Lands irrigated Acres	Lands irrigated State
Hilliard East Fork	1914	28.00	2,644	Wyoming
Chapman	8-13-86	16.46	1,155	Wyoming
	8-13-86	98.46	6,892	Utah
	4-12-12	.57	40	Wyoming
	5- 3-12	4.07	285	Utah
	5-21-12	10.17	712	Utah
	2- 6-13	.79	55	Wyoming
	8-28-05	[1]134.00		
Francis Lee	1879	2.20	154	Wyoming
	1879	7.41	519	Utah

[1]Under the right as herein confirmed not to exceed 134 second-feet may be carried across the Wyoming-Utah State line in the Chapman Canal at any time for filling the Neponset Reservoir, for irrigation of land in Utah and for other purposes. The storage right in Neponset Reservoir is for 6,900 acre-feet, which is a component part of the irrigation right for the Utah lands listed above.

Administration

All other rights to the use of water carried in interstate canals and ditches, as adjudicated in the State in which the point of diversion is located, are recognized and confirmed.

B. All interstate rights shall be administered by the State in which the point of diversion is located and during times of water emergency, such rights shall be filled from the allocations specified in Article IV hereof for the Section in which the point of diversion is located, with the exception that the diversion of water into the Hilliard East Fork Canal, Lannon Canal, Lone Mountain Ditch, and Hilliard West Side Canal shall be under the administration of Wyoming. During times of water emergency these canals and the Lone Mountain Ditch shall be supplied from the allocation specified in Article IV for the Upper Wyoming Section Diversions.

ARTICLE XI

Applications

Applications for appropriation, for change of point of diversion, place and nature of use, and for exchange of Bear River water shall be considered and acted upon in accordance with the law of the State in which the point of diversion is located, but no such application shall be approved if the effect thereof will be to deprive any water user in another State of water to which he is entitled, nor shall any such application be approved if the effect thereof will be an increase in the depletion of the flow of the Bear River and its tributaries beyond the limits authorized in each State in Articles IV, V and VI of this Compact. The official of each State in charge of water administration shall, at intervals and in the format established by the Commission, report on the status of use of the respective allocations.

Allocation status report

ARTICLE XII

Nothing in this Compact shall be construed to prevent the United States, a signatory State or political subdivision thereof, person, corporation, or association, from instituting or maintaining any action or proceeding, legal or equitable, for the protection of any right under State or Federal law or under this Compact.

ARTICLE XIII

Nothing contained in this Compact shall be deemed:

1. To affect the obligations of the United States of America to the Indian tribes;
2. To impair, extend or otherwise affect any right or power of the United States, its agencies or instrumentalities involved herein; nor the capacity of the United States to hold or acquire additional rights to the use of the water of the Bear River;
3. To subject any property or rights of the United States to the laws of the States which were not subject thereto prior to the date of this Compact;
4. To subject any property of the United States to taxation by the States or any subdivision thereof, nor to obligate the United States to pay any State or subdivision thereof for loss of taxes.

ARTICLE XIV

Commission review and proposed amendments

At intervals not exceeding twenty years, the Commission shall review the provisions hereof, and after notice and public hearing, may propose amendments to any such provision, provided, however, that the provisions contained herein shall remain in full

force and effect until such proposed amendments have been ratified by the legislatures of the signatory States and consented to by Congress.

ARTICLE XV

Termination of Compact

This Compact may be terminated at any time by the unanimous agreement of the signatory States. In the event of such termination all rights established under it shall continue unimpaired.

ARTICLE XVI

Constitutionality of provision

Should a court of competent jurisdiction hold any part of this Compact to be contrary to the constitution of any signatory State or to the Constitution of the United States, all other severable provisions of this Compact shall continue in full force and effect.

ARTICLE XVII

Ratification and notice

This Compact shall be in effect when it shall have been ratified by the Legislature of each signatory State and consented to by the Congress of the United States of America. Notice of ratification by the legislatures of the signatory States shall be given by the Governor of each signatory State to the Governor of each of the other signatory States and to the President of the United States of America, and the President is hereby requested to give notice to the Governor of each of the signatory States of approval by the Congress of the United States of America.

IN WITNESS WHEREOF, the Commissioners and their advisers have executed this Compact in five originals, one of which shall be deposited with the General Services Administration of the United States of America, one of which shall be forwarded to the Governor of each of the signatory States, and one of which shall be made a part of the permanent records of the Bear River Commission.

Done at Salt Lake City, Utah, this 22nd day of December, 1978.
For the State of Idaho:
(s) Clifford J. Skinner
(s) J. Daniel Roberts
(s) Don W. Gilbert
For the State of Utah:
(s) S. Paul Holmgren
(s) Simeon Weston
(s) Daniel F. Lawrence
For the State of Wyoming:
(s) George L. Christopulos
(s) J. W. Myers
(s) John A. Teichert
Approved:
Wallace N. Jibson
Representative of the United States of America
Attest:
Daniel F. Lawrence
Secretary of the Bear River Commission

Approved February 8, 1980.

STATE AMENDING LEGISLATION

WYOMING: Enrolled Act No. 41
Amended W.S. 41-12-101
March 6, 1979

UTAH: Enrolled Copy S.B. No. 255
Amended Section 73-16-2, Ut. Code Annot. 1953
May 8, 1979

IDAHO: Senate Bill No. 1162
Amended Section 42-3402, Idaho Code
April 5, 1979

LEGISLATIVE HISTORY:

HOUSE REPORT No. 96-524 (Comm. on Interior and Insular Affairs).
SENATE REPORT No. 96-526 accompanying S. 1489 (Comm. on the Judiciary).
CONGRESSIONAL RECORD:
Vol. 125 (1979): Nov. 27, considered and passed House.
Dec. 20, S. 1489 considered and passed Senate.
Vol. 126 (1980): Jan. 23, considered and passed Senate.

Attachment T THREE-STATE AGREEMENT: SYSTEM AGREEMENT

AGREEMENT
Regarding the Bear River System

This Agreement is entered into this 5th day of October, 1999, by and among PACIFICORP, an Oregon corporation ("PacifiCorp"); SCOTTISH POWER plc, a public limited company registered in Scotland ("ScottishPower"); the STATE OF IDAHO, by and through the Director of the Department of Water Resources ("Idaho"); the STATE OF UTAH, by and through the Director of the Division of Water Resources, ("Utah"); and the STATE OF WYOMING, by and through the State Engineer ("Wyoming"). PacifiCorp, ScottishPower, Idaho, Utah, and Wyoming are individually referred to as a "Party" and collectively as the "Parties."

RECITALS

A. PacifiCorp operates hydroelectric plants on the Bear River and holds water rights in the Bear River and Bear Lake (such hydroelectric plants and water rights referred to herein as "Bear River System"). PacifiCorp's water rights in the Bear River System are subject to the Amended Bear River Compact among the States of Idaho, Utah and Wyoming, as well as the laws of the three States, and other obligations.

B. PacifiCorp and ScottishPower are parties to a merger transaction that is currently the subject of approval proceedings before the public utility commissions in the States of Idaho, Utah and Wyoming.

C. The Parties recognize the need to assure the public utility commissions of the States of Idaho, Utah, and Wyoming, and the other public officials and water users of the three States that PacifiCorp's merger with ScottishPower will not affect the operation of the Bear River System or PacifiCorp's ownership or exercise of its Bear River water rights.

D. By this Agreement, PacifiCorp and ScottishPower intend to assure the States of Idaho, Utah and Wyoming that PacifiCorp or ScottishPower will not make any separate agreement with any State individually regarding PacifiCorp's or ScottishPower's water rights in the Bear River System.

NOW, THEREFORE, IT IS HEREBY AGREED BY THE PARTIES AS FOLLOWS:

1. Both ScottishPower and PacifiCorp agree that:

   a. PacifiCorp's water rights are constrained by the historic practice of not making a delivery call for hydropower generation; and

   b. Bear Lake is operated, consistent with long-standing historic practice and applicable laws, primarily as a storage reservoir to satisfy

contracts for existing irrigation uses and flood control needs in the three States, with the use of water for hydropower generation being incidental to the other purposes for which the water is being released.

2. The Parties agree to jointly negotiate an enforceable Bear River System Operations Agreement consistent with the provisions set forth in paragraph 1. With respect to the Bear River, the Operations Agreement shall confirm and continue PacifiCorp's historic practice of utilizing its water rights primarily for existing irrigation uses and contractual obligations. The Operations Agreement shall be made available for public review and comment in each of the three States.

3. This Agreement, the Operations Agreement, or any other agreement that may be entered into with PacifiCorp and/or ScottishPower concerning utilization of PacifiCorp's water rights in the Bear River System may be recorded in the County Recorders' Offices of the appropriate counties and shall be provided to the public utility commissions of the respective States within 10 days of execution of the document.

4. Approval and execution of the Operations Agreement by each of the States of Idaho, Utah, and Wyoming shall be required for the Operations Agreement to be effective.

5. The Parties commit to use their best efforts to complete negotiation, review, and execution of the Bear River System Operation Agreement within sixty (60) days of the execution of this Agreement.

6. No agreements between PacifiCorp and/or ScottishPower and one or more of the States concerning utilization of PacifiCorp's water rights in the Bear River System shall be effective unless jointly approved by all three States.

7. Nothing in this Agreement, nor in any Operations Agreement, shall be interpreted to modify, limit or enhance any rights or obligations of the three States under the laws of the States and the Amended Bear River Compact.

8. Consideration. ScottishPower and PacifiCorp acknowledge receiving sufficient consideration for the commitments contained in this Agreement and waive any argument that they might have in any judicial proceeding that no consideration exists to support this Agreement or that the consideration received is not sufficient.

9. Binding Effect of Agreement. This Agreement is intended to be a final and binding settlement agreement between the three States and ScottishPower and PacifiCorp, jointly and severally, and inures to the benefit of, and is binding upon, the representatives, successors in interest, and assigns of each entity.

10. Sovereign Immunity. Each of the three States and their various agencies do not waive their sovereign immunity by entering into this Agreement and fully retain all immunities and defenses provided by law with respect to any action based on or occurring as a result of this Agreement.

11. Capacity to Execute Agreement. ScottishPower and PacifiCorp each warrant and represent that the person executing this Agreement is empowered to do so on behalf of such company and thereby binds each entity by signing this Agreement.

12. Waivers. The failure to object to any breach of any term or condition in this Agreement shall not constitute a waiver and no failure to object shall be deemed a waiver of any prior or subsequent breach.

13. Entirety of Agreement. This Agreement represents the entire and integrated agreement between the Parties and supersedes all prior negotiations, representations and oral agreements. No promise or inducement has been offered or made except as herein set forth and this Agreement is executed without reliance upon any statement or representation by any other Party or their agent.

14. Modification. This Agreement may be amended or modified only by a written agreement signed by each of the Parties to this Agreement.

15. Execution of Agreement in Parts. Due to time constraints, the Parties acknowledge that it is not possible to have all Parties sign the same copy of this Agreement. Therefore, the Parties agree that this Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

16. Signatures. In witness whereof, the Parties to this Agreement through their duly authorized representatives have executed this Agreement and certify that they have read, understood, and agreed to the terms and conditions of this Agreement as set forth herein.

IN WITNESS WHEREOF, the Parties have executed this Agreement the day and the year first above written.

PACIFICORP

By: _____
DENNIS P. STEINBERG
Senior Vice President of PacifiCorp

SCOTTISH POWER plc

By: _____
MATTHEW R. WRIGHT
Manager of Scottish Power plc

STATE OF IDAHO

By: _____
Karl J. Dreher, Director
Department of Water Resources

STATE OF UTAH

By: _____
Larry Anderson, Director
Division of Water Resources

STATE OF WYOMING

By: _____
Gordon W. Fassett
State Engineer

APPROVAL AS TO FORM:

By: _____
for Wyoming

ACKNOWLEDGMENTS

STATE OF Wyoming)
) ss.
COUNTY OF Laramie)

On this 5th day of October, 1999, before me, Diana M. Gorman, a notary public of the State of Wyoming, personally appeared DENNIS P. STEINBERG, a Senior Vice President of PacifiCorp, known or identified to me to be the person who executed the foregoing instrument on behalf of PacifiCorp, and he acknowledged to me that he executed the same.

DIANA M. GORMAN * NOTARY PUBLIC * LARAMIE COUNTY, WYOMING

Diana M. Gorman
NOTARY PUBLIC FOR WYOMING
residing at:
739 Cypress Lane
Cheyenne, WY 82009

My commission expires: 2/21/02

STATE OF Wyoming)
) ss.
COUNTY OF Laramie)

On this 5th day of October, 1999, before me, Diana M. Gorman, a notary public of the State of Wyoming, personally appeared MATTHEW R. WRIGHT, a Manager of Scottish Power plc, known or identified to me to be the person who executed the foregoing instrument on behalf of Scottish Power plc, and he acknowledged to me that he executed the same.

DIANA M. GORMAN * NOTARY PUBLIC * LARAMIE COUNTY, WYOMING

Diana M. Gorman
NOTARY PUBLIC FOR WYOMING
residing at:
739 Cypress Lane
Cheyenne, WY 82009

My commission expires: 2/21/02

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ADDENDUM
Interpreting
AGREEMENT
Regarding the Bear River System

The undersigned parties executed an "AGREEMENT Regarding the Bear River System" October 5, 1999 (Appended hereto). There they committed "to use their best efforts to complete negotiation, review, and execution of [a] Bear River System Operation Agreement within sixty (60) days" of October 5, 1999.

The parties hereby acknowledge they have complied with this provision but, because of the complexity of the issues involved, a time frame longer than 60 days from execution of the October 5, 1999 agreement is necessary for the Operation Agreement to be negotiated and executed. The parties agree no breach of the October 5, 1999 Agreement has occurred because 60 days have elapsed since its execution without completion of an Operation Agreement.

Further, the undersigned hereby restate their intent to use their best efforts to execute an Operation Agreement as contemplated in the October 5, 1999 Agreement as quickly as possible and agree that this document will be considered an Addendum to the October 5, 1999 Agreement.

DATED this 7th day of December, 1999.

PACIFICORP

By: _____
Michael T. Winslow
Assistant General Counsel of
PacifiCorp

STATE OF UTAH

By: _____
Larry Anderson, Director
Division of Water Resources

SCOTTISH POWER plc

By: _____
Matthew W. Wright
Manager of Scottish Power plc

STATE OF WYOMING

By: _____
Gordon W. Fassett
State Engineer

STATE OF IDAHO

By: _____
Karl J. Dreher, Director
Department of Water Resources

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Attachment V THREE-STATE AGREEMENT: OPERATIONS AGREEMENT

OPERATIONS AGREEMENT

FOR PACIFICORP'S BEAR RIVER SYSTEM

This Agreement is made this 18th day of April, 2000 by and among PacifiCorp, an Oregon Corporation, the Idaho Department of Water Resources, the Utah Division of Water Resources, and the Wyoming State Engineer's Office. Collectively, Idaho, Utah and Wyoming are referred to as the "States." PacifiCorp, Idaho, Utah, and Wyoming are collectively referred to as the "Parties."

WHEREAS, the States executed the Bear River Compact in 1957, and the Amended Bear River Compact in 1978, to "remove the causes of present and future controversy over the distribution and use of the waters of Bear River; to provide for efficient use of water for multiple purposes; to permit additional development of the water resources of Bear River; to promote interstate comity; and to accomplish an equitable apportionment of the waters of Bear River among the compacting States," and

WHEREAS, PacifiCorp owns water rights to divert and store water in Bear Lake and water rights in the Bear River as decreed in the matter of *Utah Power & Light Company v. The Last Chance Canal Company, Limited, et al,* in Equity No. 203, July 14, 1920 (the "Dietrich Decree"), and *Utah Power & Light Company v. Richmond Irrigation Company, et al.,* February 21, 1922 (the "Kimball Decree"), as well as other water rights in the Bear River. PacifiCorp's water rights include the exclusive right to divert and store water in and release water from Bear Lake between elevations 5923.65 ft and 5902.00 ft MSL (UP&L Datum) ("Bear Lake Storage Water"). The Idaho Water Resource Board holds a license issued by the State of Idaho establishing a minimum Bear Lake elevation of 5902.00 ft; and

WHEREAS, PacifiCorp has entered into various contracts for the use and allocation of its Bear Lake Storage Water under certain terms and conditions; and

WHEREAS, PacifiCorp owns and operates six hydroelectric plants with a total capacity of 116 MW on the Bear River downstream from Bear Lake. Five of the plants are licensed by the Federal Energy Regulatory Commission ("FERC"); and

WHEREAS, FERC determined on February 12, 1998 that Bear Lake "is operated primarily to supply irrigation water to downstream users in accordance to the Bear River Compact, [and] does not provide energy generation benefits to licensed projects downstream;" and

WHEREAS, by "AGREEMENT Regarding the Bear River System" between the States, PacifiCorp, and ScottishPower dated October 5, 1999 (the "October 5, 1999 Agreement") relating to PacifiCorp's operation of Bear Lake and its hydroelectric plants downstream from Bear Lake, the Parties agreed "PacifiCorp's water rights are constrained by the historic practice of not making a delivery call for hydropower

generation;" and "Bear Lake is operated, consistent with long-standing historic practice and applicable laws, primarily as a storage reservoir to satisfy contracts for existing irrigation uses and flood control needs in the three States, with the use of water for hydropower generation being incidental to the other purposes for which the water is being released;" and

WHEREAS, the October 5, 1999 Agreement anticipated the Parties would enter into a subsequent agreement further describing PacifiCorp's operations, and the Parties have negotiated this Agreement in satisfaction of the October 5, 1999 Agreement.

NOW THEREFORE, for the mutual promises of the Parties, and for other good and valuable consideration, the Parties agree as follows:

1. Purpose of this Agreement.

A. The purpose of this Agreement is to satisfy the requirements of Paragraph 2 of the October 5, 1999 Agreement committing the parties to negotiate an enforceable Bear River System Operations Agreement that shall confirm and continue PacifiCorp's historic practice of utilizing its water rights primarily for existing irrigation uses and contractual obligations.

B. The Parties agree that Paragraph 1.a. of the October 5, 1999 Agreement describes PacifiCorp's use of its water rights in Bear River for hydropower generation. Further agreement on PacifiCorp's use of its water rights for hydropower generation is not described herein, and the scope of this Bear River Systems Operations Agreement is limited to PacifiCorp's operations at Bear Lake.

C. The Parties recognize that PacifiCorp's operations at Bear Lake and at its downstream hydroelectric power plants on Bear River are separate operations and are not related, other than water released from Bear Lake is used for hydropower generation incidental to the other purposes for which water is released.

D. The Parties do not intend by this Agreement to confirm or agree that any specific water management practice of PacifiCorp described, referred to, or implied in this Agreement, other than the limitations set forth in the October 5, 1999 Agreement, shall constitute a constraint or limitation on PacifiCorp's use of its water rights. PacifiCorp will consult with the States if it sees the need to deviate from the operation and practices outlined in this Agreement.

E. The Parties do not intend by this Agreement to set forth a detailed plan for day-to-day operations of Bear Lake, but rather to establish the framework within which PacifiCorp will develop and implement such a plan. Such plan will conform to the terms of this Agreement and the October 5, 1999 Agreement.

F. The Parties recognize that persons not party to this agreement have varying interests in the manner in which Bear Lake is managed and operated. This Agreement is not intended as a formal recognition or confirmation of the interests of persons not party to this Agreement.

G. The Parties agree that if any of the terms of this Agreement are found to be inconsistent with the terms of the October 5, 1999 Agreement, the October 5, 1999 Agreement is controlling.

2. PacifiCorp's Regulation of Bear Lake.

A. PacifiCorp agrees to continue to operate Bear Lake primarily for Bear Lake Storage Water delivery under its contracts, or for flood control, depending on the level of Bear Lake, the forecasted runoff, general water supply conditions, constraints of its contracts, its assessment of the hydrology and other conditions in the Bear River basin. Hydropower generation at its downstream hydroelectric plants shall continue to be an incidental use of Bear Lake Storage Water released primarily for contract deliveries or flood control.

B. PacifiCorp will not execute new Bear Lake Storage Water contracts which would result in delivery of a greater amount of Bear Lake Storage Water than the amount historically used. The extent of historical use is currently documented by interstate accounting models used by Idaho and Utah. Nothing herein will prevent the States, by agreement, from updating said models or adopting a different technical basis for determining historical use.

C. PacifiCorp's Bear Lake Target Elevation (the "PTE"). PacifiCorp has determined the PTE represents the elevation of Bear Lake to be achieved, if possible, on March 31st of each year. The PTE may range from as low as elevation 5916 ft during projected high runoff conditions to elevation 5920 ft during projected low runoff conditions. Under normal conditions, PacifiCorp sets the PTE at 5918 ft. PacifiCorp has established the PTE to best balance long term contract requirements for Bear Lake Storage Water during sustained drought periods with flood control operation during high runoff periods. Although this increase above the Bear River Compact Irrigation Reserve results in additional lost generation at the downstream hydroelectric plants during high runoff periods, it provides on average an additional 225,000 acre feet of Bear Lake Storage Water for contract deliveries in excess of the Bear River Compact Irrigation Reserve, enhanced recreational and aesthetic opportunities at Bear Lake, and maintenance of wildlife values, while still maintaining flood control capabilities.

i. Generally, PacifiCorp sets the PTE at the end of the irrigation season and updates the PTE each month during the period from the end of the irrigation season to March 31st of the following year. During extreme high runoff years, PacifiCorp may set the PTE as early as August 1st and may continue to update it into the following runoff season. Adjustments to the PTE are made to accommodate changing conditions, including weather forecasts, downstream constraints, uncertain irrigation demands, variations in runoff from month to month, and other operational constraints.

ii. Generally, if Bear Lake elevation is 5918 ft or higher at the end of the irrigation season, releases are scheduled to lower Bear Lake to elevation 5918 ft by March 31st of the following year. Conversely, if Bear Lake is below elevation 5918 ft at the end of the irrigation season, releases are curtailed until such time as the lake is predicted to reach elevation 5918 ft or until such time as high snowpack and runoff forecasts during the following winter months require PacifiCorp to make releases for flood control. At times during the period from the end of the irrigation season to March 31st of the following year, if snowpack and runoff forecasts indicate below average runoff, releases may be curtailed for the entire winter, even if the Bear Lake elevation is higher than 5918 ft. Except in emergencies, PacifiCorp will not release water from Bear Lake when the elevation is below the PTE unless consistent with flood control operation.

iii. Setting and adjusting the PTE is consistent with PacifiCorp's operation of Bear Lake since the early 1970s. In addition, the practice is consistent with PacifiCorp's FERC applications to relicense its Bear River hydroelectric facilities submitted to FERC on September 23, 1999. The FERC applications commit to continuation of historical operation. Refer to PacifiCorp's FERC applications for Soda (FERC #20) at FERC Application Exhibit B1-11 (September 1999), Grace/Cove (FERC #2401) at FERC Application Exhibit B1-14 (September 1999) and Oneida (FERC #472) at FERC Application Exhibit B1-13 (September 1999). The FERC applications do not provide for the release of Bear Lake storage water for hydro generation. From time to time, the elevation of Bear Lake may range from elevation 5902.00 ft to elevation 5923.65 ft. Nothing herein shall restrict PacifiCorp's right to store water in Bear Lake to elevation 5923.65 ft.

3. PacifiCorp's Hydroelectric Operations on Bear River

A. PacifiCorp owns and operates 6 hydroelectric plants on the Bear River downstream from Bear Lake which are listed in the table below.

Hydroelectric Project	FERC No.	Current Licensed Capacity
Soda	20	14.0 MW
Last Chance	4580	1.4 MW*
Grace	2401	33.0 MW
Cove	2401	7.5 MW
Oneida	472	30.0 MW
Cutler	2420	30.0 MW

(*FERC License Exemption)

PacifiCorp operates each hydroelectric plant with water rights granted by the state in which the hydroelectric plant is located. The Cutler hydroelectric plant operates with water rights recognized by both Utah and Idaho.

B. PacifiCorp agrees to continue its historic practice of regulating operation at its hydroelectric plants to meet existing downstream demands, some of which have water rights which are earlier in priority than PacifiCorp's hydro power water rights. Such historic operation is consistent with PacifiCorp's FERC licenses.

C. Nothing in this Agreement or the October 5, 1999 Agreement shall be interpreted as limiting PacifiCorp's right or ability to protest water right applications or filings in the Bear River Basin or from otherwise exercising and defending its water rights.

4. PacifiCorp regulates Bear Lake and operates its Bear River hydroelectric plants subject to various institutional, legal. and operational guidelines. The Parties recognize that said institutional guidelines may change due to conditions beyond the control of one or more of the Parties, and that such change may require adjustments in PacifiCorp's operations. If this occurs, PacifiCorp will advise the States and consult with them prior to changing its operations.

5. This Agreement is made in recognition of the existing rights and practices of the Parties.

6. This Agreement is intended to be a final and binding agreement in satisfaction of the commitment to negotiate a Bear River System Operations Agreement pursuant to Paragraph 2 of the October 5, 1999 Agreement between the States and PacifiCorp and inures to the benefit of, and is binding upon, the representatives, successors in interest, and assigns of each entity. No promise or inducement has been offered or made except as herein set forth, and this Agreement is executed without reliance upon any statement or representation by any other Party or its agent.

7. Nothing in this Agreement shall be interpreted to modify, limit or enhance any rights or obligations of the States under the laws of the States and the Amended Bear River Compact.

8. Consideration. The Parties acknowledge receiving sufficient consideration for the commitments contained in this Agreement and waive any argument that they might have in any judicial proceeding that no consideration exists to support this Agreement or that the consideration received is not sufficient.

9. Binding Effect of Agreement. This Agreement is intended to be a final and binding agreement between the States and PacifiCorp and inures to the benefit of, and is binding upon, the representatives, successors in interest, and assigns of each entity.

10. Sovereign Immunity. Each of the States and their various agencies do not waive their sovereign immunity by entering into this Agreement and fully retain all immunities and defenses provided by law with respect to any action based on or occurring as a result of this Agreement.

11. Capacity to Execute Agreement. The Parties warrant and represent that the person executing this Agreement is empowered to do so on behalf of such Party and thereby binds each entity by signing this Agreement.

12. Waivers. The failure to object to any breach of any term or condition in this Agreement shall not constitute a waiver and no failure to object shall be deemed a waiver of any prior or subsequent breach.

13. Modification. This Agreement may be amended or modified only by a written agreement signed by each of the Parties to this Agreement.

14. Execution of Multiple Originals. The Parties agree that this Agreement may be executed in four counterparts, each of which shall be an original.

15. Signatures. In witness whereof, the Parties to this Agreement through their duly authorized representatives have executed this Agreement and certify that they have read, understood, and agreed to the terms and conditions of this Agreement as set forth herein.

IN WITNESS WHEREOF, this Agreement is executed on the date first above written.

PACIFICORP

By: _____
Vice President Generation

STATE OF IDAHO

By: _____
Karl J. Dreher, Director
Department of Water Resources

STATE OF WYOMING

By: _____
Gordon W. Fassett
State Engineer

APPROVED AS TO FORM

By: _____
For Wyoming

STATE OF UTAH

By: _____
D. Larry Anderson, Director
Division of Water Resources

ACKNOWLEDGEMENTS

STATE OF Utah)
) ss.
COUNTY OF Salt Lake)

On the 5th day of April, 2000, before me, Jan S. Mahoney a notary public, personally appeared Barry G. Cunningham, a Vice President Generation of PacifiCorp, known or identified to me to be the person who executed the foregoing instrument on behalf of PacifiCorp, and he acknowledged to me that he executed the same.

NOTARY PUBLIC
JAN S. M...
201 South ...
Salt Lake C...
My Commiss...
August ...

Jan S. Mahoney
NOTARY PUBLIC

residing at:

_____

_____

STATE OF Utah)
) ss.
COUNTY OF Salt Lake)

On the 18th day of April, 2000, before me, Boyd E. Phillips a notary public, personally appeared Karl J. Dreher, Director, Idaho Department of Water Resources, known or identified to me to be the person who executed the foregoing instrument on behalf of the State of Idaho, and he acknowledged to me that he executed the same.

NOTARY PUBLIC
BOYD E. PHILLIPS
1636 West North Temple
Salt Lake City, Utah 84116
My Commission Expires
May 19, 2000
STATE OF UTAH

Boyd E. Phillips
NOTARY PUBLIC

residing at:

_____

_____

STATE OF Utah)
) ss.
COUNTY OF Salt Lake)

On the 18th day of April, 2000, before me, Boyd E. Phillips a notary public, personally appeared Gordon W. Fassett, Wyoming State Engineer, known or identified to me to be the person who executed the foregoing instrument on behalf of the State of Wyoming, and he acknowledged to me that he executed the same.

NOTARY PUBLIC
BOYD E. PHILLIPS
1636 West North Temple
Salt Lake City, Utah 84116
My Commission Expires
May 19, 2000
STATE OF UTAH

Boyd E. Phillips
NOTARY PUBLIC

residing at:
_____
_____

STATE OF Utah)
) ss.
COUNTY OF Salt Lake)

On the 18th day of April, 2000, before me, Boyd E. Phillips a notary public, personally appeared D. Larry Anderson, Director of the Utah Division of Water Resources, known or identified to me to be the person who executed the foregoing instrument on behalf of the State of Utah, and he acknowledged to me that he executed the same.

NOTARY PUBLIC
BOYD E. PHILLIPS
1636 West North Temple
Salt Lake City, Utah 84116
My Commission Expires
May 19, 2000
STATE OF UTAH

Boyd E. Phillips
NOTARY PUBLIC

residing at:
_____
_____

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AMENDED AND RESTATED BEAR LAKE SETTLEMENT AGREEMENT

THIS AMENDED AND RESTATED BEAR LAKE SETTLEMENT AGREEMENT (the "Agreement") is made and entered into this 2nd day of July, 2004, by and between LAST CHANCE CANAL COMPANY, CUB RIVER IRRIGATION COMPANY, WEST CACHE IRRIGATION COMPANY, BEAR RIVER CANAL COMPANY, and THE BEAR RIVER WATER USERS ASSOCIATION, INC. (referred to collectively as the "Company Irrigators"); and BEAR LAKE WATCH, INC. in its own behalf and as successor in interest to JIM KIMBAL, EMERALD BEACH, INC., and BEAR LAKE EAST, INC. (referred to collectively as the "Bear Lake Group"); and PACIFICORP. The foregoing are sometimes referred to herein individually as a "Party" or collectively as the "Parties."

RECITALS

A. WHEREAS, PacifiCorp owns certain decreed rights under the Dietrich Decree in Idaho (*Utah Power & Light Company v. Last Chance Canal Company, Limited, et al.*, in Equity No. 203, July 14, 1920) and the Kimball Decree in Utah (*Utah Power & Light Company v. Richmond Irrigation Company, et al.*, February 21, 1922) to divert water from Bear River for storage in the top 21.65 feet of Bear Lake between elevations 5902 and 5923.65 and to operate, manage and release the same for irrigation in the Bear River Valley in Idaho and Utah; power generation incidental to releases for irrigation, stockwatering and flood control; and flood control and for other beneficial uses; and

B. WHEREAS, the Company Irrigators and certain individual small irrigators diverting water from Bear River under State granted water rights in the States of Idaho and Utah (the "Small Irrigators") hold contracts with PacifiCorp to receive Bear Lake storage water which has historically been applied to beneficial use for the supplemental irrigation of more than 157,000 acres in Idaho and Utah (the "Contracts"); and

C. WHEREAS, the Bear Lake Group represents the interests of its members who consist of property owners around Bear Lake, recreationalists and others who use waters of Bear Lake for recreation, aesthetic and other non-consumptive purposes; and

D. WHEREAS, the Parties have heretofore entered into that certain agreement entitled "Bear Lake Settlement Agreement," dated April 10, 1995 (the "Original Settlement Agreement"); and

E. WHEREAS, the signatories to the Original Settlement Agreement included two unincorporated associations of individual irrigators identified as the "Idaho Pumpers Association" and the "Utah Pumpers Association" (the "Associations"). The members of the Associations are referred to in this Agreement as the "Small Irrigators"; and

F. WHEREAS, as contemplated in the Original Settlement Agreement, the Parties have pursued with the states of Idaho, Utah and Wyoming the concept and implementation of a single interstate model and modeling process for the administration and distribution of water in

the Bear River System (the "Interstate Model"), including the delivery of supplemental irrigation storage water out of Bear Lake allocated by PacifiCorp among the Company Irrigators and Small Irrigators holding Contracts with PacifiCorp as set forth herein; and

G. WHEREAS, because the Interstate Model improved the accuracy of accounting for Bear River natural flow and Bear Lake storage water use, PacifiCorp and certain of the Company Irrigators and Small Irrigators amended their Contracts to adjust the amount of Bear Lake storage water releases to them, which Contracts specifically made reference to the Original Settlement Agreement; and

H. WHEREAS, subsequent to the Original Settlement Agreement, PacifiCorp entered into certain agreements referencing the Original Settlement Agreement, among them the October 5, 1999 and April 19, 2000 agreements with the States of Wyoming, Idaho and Utah; and

I. WHEREAS, as contemplated in the Original Settlement Agreement, the Parties have been able to resolve conflicts by pursuing means other than litigation, and appropriate changes to the "Irrigation Water Allocation Lake Recovery Proposal for Bear Lake" have been demonstrated; and

J. WHEREAS, certain provisions of the Original Settlement Agreement are no longer applicable; and

K. WHEREAS, the Parties desire to amend and restate in its entirety the Original Settlement Agreement to facilitate the changes set forth above in this Agreement.

AGREEMENT

NOW, THEREFORE, IT IS HEREBY MUTUALLY AGREED among the Parties as follows:

1. The Bear Lake Irrigation Water Allocation and Lake Recovery Table attached hereto as EXHIBIT "A" and incorporated by reference herein, is hereby approved by the Company Irrigators and Bear Lake Group, and adopted by PacifiCorp as established policy for the supplemental irrigation water delivery component of its operation and management of Bear Lake. The Bear Lake Irrigation Water Allocation and Lake Recovery Table attached as Exhibit "A" hereto replaces and supersedes the "Irrigation Water Allocation Lake Recovery Proposal for Bear Lake" table attached to the Original Settlement Agreement.

2. The Parties acknowledge and agree that PacifiCorp shall retain the authority and discretion to determine the "Estimated Lake Elevation" set forth in Column (A) of Exhibit "A;" adjust the "Estimated System Losses" set forth in Column (H) of Exhibit "A;" and make all decisions regarding the operation and maintenance of PacifiCorp's Bear River and Bear Lake system facilities. Under extreme conditions of unforeseen circumstances, and for good cause shown, PacifiCorp, after consultation with the Bear Lake Preservation Advisory Committee (the "Advisory Committee"), may adjust the Annual Allocation set forth in Column (E) of Exhibit "A."

3. The Advisory Committee shall remain in effect and consists of a representative of each of the Company Irrigators, representatives of the entity or entities comprising the Small Irrigators, each of the entities comprising the Bear Lake Group, representatives for PacifiCorp, and representatives from the Bear River Commission and the States of Idaho, Utah and Wyoming should they desire to participate, as well as other parties who have an interest in promoting the goals enumerated below. The purpose of the Advisory Committee will be to address and attempt to resolve through compromise and negotiations disagreements among the Parties and others concerning the use, operation and management of Bear Lake. Among other things, the purposes of the Advisory Committee will include the following;

a. to promote water conservation and efficient use practices;
b. to promote more reliable water supplies in Bear Lake and Bear River for all users;
c. to promote soil and energy conservation and improved water quality;
d. to pursue means other than litigation to resolve conflicts;
e. to continue to support the concept of a single accounting model for administration of water in the Bear Lake/Bear River System; and
f to periodically review Exhibit "A" and recommend changes in that policy to PacifiCorp as may be appropriate.

4. PacifiCorp shall present its Estimated Annual Allocation to the Company Irrigators and Small Irrigators based upon the Estimated Lake Elevation of Bear Lake as set forth in Exhibit "A" or its anticipated flood control release projections at a meeting of the Advisory Committee. The Advisory Committee will meet at least annually as scheduled by the Advisory Committee or PacifiCorp.

5. The Company Irrigators shall be allocated 92.2% of the Estimated Annual Allocation to Irrigators as set forth in Column (E) of Exhibit "A." The 92.2% of the Estimated Annual Allocation to Irrigators shall be apportioned by the Company Irrigators among themselves according to a written apportionment schedule established by the Company Irrigators at their sole discretion and approved under the bylaws of the Bear River Water Users Association. The remaining 7.8% of the Estimated Annual Allocation to Irrigators shall be allocated by PacifiCorp to the Small Irrigators as follows: Idaho Small Irrigators 3.0% and Utah Small Irrigators 4.8%. The Idaho Small Irrigators and/or the Utah Small Irrigators may organize corporations or entities to which the individual Contracts of the Small Irrigators are assigned. The Parties do not object to such assignments so long as no more than 7.8% of the Estimated Annual Allocation to Irrigators is allocated to such corporations or entities. The Bear Lake Group does not agree or disagree with, or in any manner take part in, this provision of this Agreement.

6. The Parties provide and hereby intend that the Small Irrigators participate in this Agreement either as set forth in Paragraph 5 above, or as one or two representative organizations receiving allocations of the Estimated Annual Allocation as set forth in Paragraph 5 above. If the Small Irrigators participate as one organization, said organization shall include all of the Small Irrigators. If the Small Irrigators participate as two organizations, said organizations shall be organized by State and include all Idaho Small Irrigators in one organization and all Utah Small Irrigators in one organization. Subsequent to the execution of this Agreement, the Small

Irrigators' organization(s) may execute a counterpart to this Agreement stating the name of the representative organization, providing a statement of the individual Small Irrigators represented and proof of assignment of Contracts to the representative organization, and a statement of unconditional concurrence with the terms of this Agreement. Once the counterpart or counterparts to this Agreement are so executed and copies delivered to the original signatories, the organization(s) or entities shall be considered to be Parties to this Agreement. The Bear Lake Group does not agree or disagree with, or in any manner take part in, this provision of this Agreement.

7. The Parties acknowledge and agree that the Company Irrigators have entered into this Agreement voluntarily with the other Parties, for the purpose of allocating Bear Lake storage water for supplemental irrigation use in times of shortage, when nature does not otherwise provide a full supply. Nothing in this Agreement shall be construed as an abandonment or forfeiture of any appropriated or Contract rights of the Company Irrigators and Small Irrigators, or rights of Bear Lake Group under environmental laws, or other rights belonging to the Parties.

8. Subsequent to the implementation of the Interstate Model, certain of the Company Irrigators and Small Irrigators amended their Contracts with PacifiCorp. PacifiCorp entered into agreements with the States of Wyoming, Idaho and Utah dated October 5, 1999 and April 18, 2000 referencing PacifiCorp's operations at Bear Lake and in Bear River. Said Contracts and agreements made specific reference to the Original Settlement Agreement. By executing this Agreement, the Parties agree to the following:

a. all references to the Original Settlement Agreement in the November 16, 1999 "Last Chance Bear Lake Storage Water Agreement" shall be replaced with and refer to this Agreement; and
b. all references to the Original Settlement Agreement in the November 11, 1999 "West Cache Irrigation Company Amendatory Agreement" shall be replaced with and refer to this Agreement.
c. any and all references to the Original Settlement Agreement in the October 5, 1999 and April 18, 2000 agreements with the States of Wyoming, Idaho and Utah and PacifiCorp shall be replaced with and refer to this Agreement;

To the extent the Parties to this Agreement have any legal or equitable rights, duties, or obligations under any agreement or contract containing references to the Original Settlement Agreement, each Party agrees that said references to the Original Settlement Agreement shall be replaced with and refer to this Agreement.

9. Any Party shall be excused from performance under this Agreement buy only during and to the extent that it is unable to perform, or its performance is delayed or interrupted, for a cause beyond its reasonable control. Such causes may include lack of water, labor or material, fire, storm, flood, acts of God, war (whether or not declared), labor disputes or an order or necessity of any governmental authority so long as the cause is not a result of any negligence of the Party claiming inability to perform. In the event of a claim of inability to perform pursuant to this provision, then the Party making such claim shall give immediate written notice with explanation to the other Parties. Following such notice, the affected obligations of the Party

giving notice shall be suspended only during the continuance of the events giving rise to the cause, provided that the affected Party is acting with all reasonable speed and due diligence to remedy the events giving rise to the cause of its inability to perform.

10. Copies of this Agreement shall be provided to the U.S. Army Corps of Engineers, the Idaho Department of Lands, the Bear River Commission, the Idaho Department of Water Resources, the Utah Divisions of Water Resources and Water Rights, and the Wyoming State Engineer's Office.

11. With respect to the rights and obligations of the Parties, this Agreement shall replace and supersede the Original Settlement Agreement in its entirety.

12. General Provisions:

a. Each Party to this Agreement will bear its expenses incurred in connection with the preparation, execution and performance of this Agreement, including all fees and expenses of agents, representatives, counsel and accountants.

b. All notices, consents, waivers and other communications under this Agreement must be in writing and will be deemed to have been duly given when (i) delivered by hand (with written confirmation of receipt), or (ii) when received by the addressee, if sent by a nationally recognized overnight delivery service (receipt requested), in each case to the appropriate addressees set forth below (or to such other addresses and fax numbers as a party may designate by notice to the other Parties):

Last Chance Canal Company	P O Box 287 Grace, ID 83241 _____
Cub River Irrigation Company	P O Box 215 Lewiston UT 84320 _____
West Cache Irrigation Company	Trenton, UT 84338 _____ _____
Bear River Canal Company	275 North 1600 East Tremonton UT 84337 _____
The Bear River Water Users Association, Inc.	_____ _____ _____

Bear Lake Watch, Inc.	c/o David R. Cottle 3539 Brighton Point Dr. Salt Lake City UT 84121 (801) 733-5243
Emerald Beach, Inc.	c/o Don C. Riches 8626 Scottish Dr. Sandy UT 84093-2132 (801) 944-9019
Bear Lake East, Inc.	Bruce Passey 4326 Rupp Court Taylorsville UT (801) 969-7787
PacifiCorp	Connely Baldwin Hydro Resources Department 1407 West North Temple, Suite 330 Salt Lake City, UT 84116

c. The rights and remedies of the Parties to this Agreement are cumulative and not alternative. Neither the failure nor any delay by any Party in exercising any right, power or privilege under this Agreement or the documents referred to in this Agreement, nor the single or partial exercise of any such right, power or privilege, will operate as a waiver of such right, power or privilege. To the maximum extent permitted by applicable law, (i) no claim or right arising out of this Agreement or the documents referred to in this Agreement can be discharged by one Party, in whole or in part, by a waiver or renunciation of the claim or right unless in writing signed by the other Parties; (ii) no waiver that may be given by a Party will be applicable except in the specific instance for which it is given; and (iii) no notice to or demand on one party will be deemed to be a waiver of any obligation of such Party or of the right of the Party giving such notice or demand to take further action without notice or demand as provided in this Agreement or the documents referred to in this Agreement.

d. PacifiCorp may assign its interest in this Agreement to a successor without the prior consent of the other Parties so long as the successor assumes all of PacifiCorp's agreements, liabilities and obligations relating to Bear Lake. No other Party may assign this Agreement without the prior consent of each other Party. Subject to the preceding sentence, this Agreement will apply to, be binding in all respects upon, and inure to the benefit of the successors and permitted assigns of the Parties. Nothing expressed or referred to in this Agreement will be construed to give any person other than the Parties to this Agreement any legal or equitable right, remedy or claim under or with respect to this Agreement or any provision of this Agreement.

e. If any provision of this Agreement is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Agreement will remain in full force and effect. Any provision of this Agreement held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.

f. The headings of sections in this Agreement are provided for convenience only and will not affect its construction or interpretation. With regard to all dates and time periods set forth or referred to in this Agreement, time is of the essence.

g. This Agreement will be governed by the laws of the State of Utah, without regard to its conflicts of laws principles.

h. This Agreement may be executed in one or more counterparts, each of which will be deemed to be an original copy of this Agreement and all of which, when taken together, will be deemed to constitute one and the same Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement the day and the year first written above.

LAST CHANCE CANAL COMPANY

By: _____

CUB RIVER IRRIGATION COMPANY

By: _____

WEST CACHE IRRIGATION COMPANY

By: _____

BEAR RIVER CANAL CO

By: _____

Signatures continue on the following page.

BEAR RIVER WATER USERS ASSOCIATION, INC.

By: _____

BEAR LAKE WATCH, INC., in its own behalf and as successor-in-interest Jim Kimbal

By: _____

EMERALD BEACH, INC.

By: _____

BEAR LAKE EAST, INC.

By: _____

PACIFICORP

By: _____

EXHIBIT "A"

(To Amended and Restated Bear Lake Settlement Agreement)

BEAR LAKE IRRIGATION WATER ALLOCATION AND LAKE RECOVERY TABLE

(Quantities Expressed in Acre-feet)

(A) Estimated Lake Elevation (in feet) (Footnote 1)	(B) Calculated Storage Content (Footnote 2)	(C) Estimated Lake Evaporation (Footnote 3)	(D) Estimated Net Storage Water Available (Footnote 4)	(E) Estimated Annual Allocation to Irrigators (Footnote 5)	(F) Decreed Transit Losses (Averaged) (Footnote 6)	(G) Estimated Head Gate Delivery to Irrigators (Footnote 7)	(H) Estimated System Losses (Averaged) (Footnote 8)	(I) Estimated Balance for Lake Recovery (Footnote 9)
5923.65 (Full)	1,421,000							
5914.7	801,000	125,000	676,000	230,000 (100%)	8,200	221,800	17,000	429,000
5914	754,000	125,000	629,000	225,000 (98%)	8,100	216,900	17,000	387,000
5913	688,000	125,000	563,000	220,000 (96%)	8,000	212,000	17,000	326,000
5912	622,000	125,000	496,000	215,000 (93%)	7,800	207,200	17,000	264,000
5911	557,000	125,000	432,000	210,000 (91%)	7,600	202,400	17,000	205,000
5910	492,000	125,000	372,000	205,000 (89%)	7,400	197,600	17,000	150,000
5909	428,000	125,000	303,000	181,000 (79%)	6,700	174,300	17,000	105,000
5908	365,000	125,000	240,000	168,000 (73%)	6,000	162,000	17,000	55,000
5907	303,000	125,000	177,000	141,000 (61%)	5,000	136,000	17,000	19,000
5906	241,000	125,000	115,000	104,000 (45%)	3,700	100,300	17,000	- 6,000
5905	180,000	125,000	55,000	55,000 (24%)	2,000	53,000	17,000	- 17,000
5904	119,000	125,000	0	0 (0%)	0 (0%)	0 (0%)	17,000	0
5903	59,000	125,000	0	0 (0%)	0 (0%)	0 (0%)	17,000	0
5902	0	125,000	0	0 (0%)	0 (0%)	0 (0%)	17,000	0

THE ACTUAL QUANTITY OF WATER TO BE RELEASED FROM BEAR LAKE EACH YEAR IS MEASURED AT THE OUTLET CANAL GAGE AND CALCULATED BY ADDING THE QUANTITY IN COLUMN E TO THE QUANTITY IN COLUMN H.

FOOTNOTES TO EXHIBIT "A"

1. The "Estimated Lake Elevation," Column A, represents PacifiCorp's estimated, maximum water level in Bear Lake, in any given year, calculated by adding the forecasted amount of storable spring runoff (i.e. the forecasted flow in the Bear River less the flow required to satisfy natural flow rights) to the actual quantity of water then in storage in Bear Lake on April 10 of said year.

2. The "Calculated Storage Content," Column B, is the calculated content according to PacifiCorp data at each projected lake elevation.

3. The "Estimated Evaporation," Column C, represents the estimated amount of water lost out of Bear Lake in any given year due to evaporation, according to PacifiCorp data.

4. The "Estimated Net Storage Water Available," Column D, is calculated by subtracting the Estimated Evaporation in Column C from the Calculated Storage Content in Column B.

5. The "Estimated Annual Allocation to Irrigators," Column E, represents the total, estimated quantity of supplemental irrigation storage water determined as of April 10 to be available for release by PacifiCorp to the BRWUA on behalf of the Company Irrigators and by PacifiCorp to the Small Irrigators from Bear Lake pursuant to the Contracts during those periods when the elevation of Bear Lake is within the Irrigation Reserve range between 5914.7 feet and 5902 feet, subject to the following:

   a. The Estimated Annual Allocation available at each estimated Bear Lake elevation is subject to the maximum flow rates deliverable through PacifiCorp facilities, PacifiCorp's historic Bear Lake operational practices, and other operating and legal constraints and subject to Contract limitations of each of the Company Irrigators and Small Irrigators.

   b. PacifiCorp shall send written notice of the Estimated Annual Allocation to Company Irrigators to the Bear River Water Users Association (BRWUA) on behalf of the Company Irrigators and to the Small Irrigators or their duly appointed representatives with a copy to the Bear River Commission Engineer-Manager. The BRWUA shall apportion 92.2% of the Estimated Annual Allocation to Irrigators among the Company Irrigators. Such apportionment shall not exceed the Contract limitations of each of the Irrigators. BRWUA shall send written notice of its apportionment to PacifiCorp and the Bear River Commission Engineer-Manager annually prior to the commencement of the irrigation season. The remaining 7.8% of the Estimated Annual Allocation to Irrigators shall be apportioned to the Small Irrigators as follows: Idaho Small Irrigators 3.0% and Utah Small Irrigators 4.8%.

   c. Unused water allocated to the BRWUA on behalf of the Company Irrigators or to the Small Irrigators under the Estimated Annual Allocation may not be accrued or carried over by the BRWUA or any Company Irrigator or Small Irrigator to any future year and will remain in Bear Lake for additional lake recovery.

d. PacifiCorp will not deliver storage water from Bear Lake to new contracts, or otherwise additionally encumber its Bear Lake storage water, over and above the water allocated to the BRWUA on behalf of the Company Irrigators and the Small Irrigators for their existing Contracts.

e. No allocation of Bear Lake storage water will be made to the BRWUA on behalf of the Company Irrigators and Small Irrigators if PacifiCorp calculates the Estimated Lake Elevation (Column A) to be 5904 feet or below. If, however, PacifiCorp calculates that the Estimated Lake Elevation will be higher than 5904 feet, PacifiCorp will pump, subject to operating and legal constraints, in order to release water from Bear Lake until such time as its operation, together with anticipated evaporation, is expected to result in a calculated Bear Lake elevation of 5902 feet after evaporation and releases.

f. The Estimated Annual Allocation to the BRWUA on behalf of the Company Irrigators and Small Irrigators will be refined by PacifiCorp by pro-rating between the nearest even foot elevations set forth in the table above and below the actual Bear Lake elevation projected on April 10, calculated in tenths of a foot.

g. PacifiCorp's historical maximum delivery of Bear Lake storage water to the Company Irrigators and the Small Irrigators for supplemental irrigation was 245,000 acre feet in 1961. Two hundred forty-five thousand acre feet shall be the maximum Estimated Annual Allocation to Irrigators at all Bear Lake elevations above 5914.7 feet. However, under extreme conditions, and only when elevations are above 5914.7 feet, delivery of Bear Lake storage water to the BRWUA may exceed 245,000 acre feet in order to satisfy the Company Irrigators' and Small Irrigators' Contracts.

6. The "Decreed Transit Losses (Averaged)," Column F, represents the transit losses calculated for the purpose of this Agreement using an average of 3.6% to cover all reaches of the Bear River. The Decreed Transit Losses are deducted from the "Estimated Annual Allocation to Irrigators" (Column E). The actual transit losses will be calculated pursuant to the Dietrich and Kimball Decrees and accounted for in the Interstate Model.

7. The "Estimated Head Gate Delivery," Column G, is the aggregate quantity of supplemental Bear Lake storage water allocated to BRWUA on behalf of the Company Irrigators and Small Irrigators by PacifiCorp to be diverted at the Company Irrigators' and the Small Irrigators' individual head gates on the Bear River, and is determined by subtracting the total Decreed Transit Losses in Column F from the total Estimated Annual Allocation in Column E. PacifiCorp will make said Bear Lake storage water available to the Bear River for subsequent diversion by the Company Irrigators and the Small Irrigators at their individual head gates as described in Footnote 5(b) above.

8. The "Estimated System Losses," Column H, represents the operating losses to the Bear River System measured at the stream gauging station below the Cutler hydroelectric plant and are accounted for under the Interstate Model as Bear Lake storage water. The actual system losses will be calculated each year by the Interstate Model and be accounted for

by PacifiCorp in determining the actual quantity of water to be preserved for Bear Lake Recovery under Column I.

9. The "Estimated Balance for Lake Recovery," Column I, is calculated by subtracting the Estimated Annual Allocation quantity in Column E and the Estimated System Losses quantity in Column H from the Estimated Net Storage Water Available quantity in Column D. Note that the actual amount preserved for Bear Lake recovery in any given year will be determined once the actual system losses have been determined each year. If actual system losses exceed the Estimated System Losses, PacifiCorp will provide notice to the Advisory Committee stating the reason, and then release additional storage water from Bear Lake to cover the increased amount of system losses. If actual system losses are less than Estimated System Losses, PacifiCorp will hold the remaining water allocated to Estimated System Losses in Bear Lake for lake recovery.

POSITION AND POLICY CONCERNING NEW SIGNIFICANT WATER RIGHT FILINGS AND DEVELOPMENT ON THE BEAR RIVER

April 16, 2009

HISTORY OF REVISIONS
April 16, 2009 – Adopted

BEAR RIVER COMMISSION

POSITION AND POLICY CONCERNING NEW SIGNIFICANT WATER RIGHT FILINGS AND DEVELOPMENT ON THE BEAR RIVER

April 16, 2009

The Bear River Compact was, in part, created to protect the rights of the member States to use the water resources of the Bear River as described by the Compact. The Compact also was created to limit the use of the water resources in one State as necessary to protect the rights of the other States to the use of the Bear River. The Bear River Commission is to carry out the provisions of the Compact.

The Compact also provides a protection from actions that would adversely impact water right holders within the Bear River drainage regardless of State lines. The Compact provides that the administration of water rights will be performed by the respective State agency in each of the three member States. Article XI of the Compact states in part:

> *Applications for appropriation, for change of point of diversion, place and nature of use, and for exchange of Bear River water shall be considered and acted upon in accordance with the law of the State in which the point of diversion is located, but no such application shall be approved if the effect thereof will be to deprive any water user in another State of water to which he is entitled, nor shall any such application be approved if the effect thereof will be an increase in the depletion of the flow of the Bear River and its tributaries beyond the limits authorized in each State in Articles IV, V and VI of this Compact.*

The Commission finds that there is an increasing demand for the use of the waters of the Bear River. New water resource development might occur with the building of additional storage as provided for by the Compact. New development might also be accomplished by the changing or transferring of established rights to new uses. At other times new developments are being proposed by new appropriations. These anticipated water right actions may involve water rights and use only in one State or in one section of the river as defined by the Compact or the proposal may cross these administrative lines.

The Commission believes that full consideration of all issues, regardless of their administrative lines, can and should be given by the individual State water right administering agency. The Commission finds that there is a strong spirit of cooperation between the States with a promise to abide by the provisions of the Compact. The Commission believes that water right holders in one State with concerns with proposals in another State should be given full consideration by the State where the administrative action is to occur. Therefore, it is the position of the Commission that it will not become formally involved in any of the States' administrative actions unless invited by the

administrative agency. Examples of actions the Commission does not intend to take would be the adoption of formal positions on proposed water right actions or developments, the filing of a protest or a letter of support in any State administrative action or publicly declaring support or opposition.

The Commission believes that it has three roles to play concerning water right filings on the Bear River, namely:

1) the Commission should provide to its members information in a timely manner concerning proposals that may have interest or potential impacts to the management and use of the waters of the Bear River system. To accomplish this, the Commission requests its member Commissioners to provide appropriate information for applications of interest that have a potential Compact tie or component to the Engineer-Manager and instructs its Engineer-Manager to pass on appropriate information and to facilitate its dissemination. The Commission intends, as has been the case in the past, to use Commission meetings also as an opportunity to disseminate information,

2) the Commission also believes that it has a responsibility to make certain that new water right changes, transfers and appropriations can be properly administered when there is a crossing of administrative lines and that further the Commission must ensure that provisions of the Compact can be adhered to through proper future administration. To ensure this, the Commission instructs its Technical Advisory Committee to be vigilant with respect to these administrative issues and to report to the Commission its findings, and

3) the Commission believes that it must always be vigilant to make certain that the aspects of the Compact agreed to by the States and the federal government are honored. Hence, actions by State administrating agencies can and will be discussed by the Commission if issues concerning adherence to the Compact are raised.

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Attachment Y IORNS, DOI REPORT

Notes:

This report, entitled "Segregation of Irrigation and Power Storage in Bear Lake Reservoir," was prepared by William Vaughn ("W.V.") Iorns initially as a thesis and later was released by the U.S. Department of the Interior as an Open File Report in 1959. Mr. Iorns was a hydraulic engineer employed by the U.S. Geological Survey. Among other positions, he served as Chairman of the Engineering Committee of the Bear River Compact Commission. DOI Report, p. iii. This report is substantially the same as the report Mr. Iorns prepared for the Commission in support of its investigation leading to the Irrigation Reserve. DOI Report, p. 1. The report was prepared with the assistance of Wallace N. Jibson. DOI Report, p. iv. Mr. Jibson is the author of *History of the Bear River Compact* (Nov. 31, 1991) (Attachment Z on page 287). Among other positions, he served as Federal Representative and Chairman of the Bear River Commission.

Report #10

SEGREGATION OF IRRIGATION AND POWER STORAGE IN BEAR LAKE RESERVOIR

By

W. V. IORNS

Open File Report

1959

GEOLOGICAL SURVEY

WATER RESOURCES DIVISION

Prepared as part of Bear River Investigations
in cooperation with the States of
Idaho, Utah, and Wyoming

Logan, Utah

SEGREGATION OF IRRIGATION AND POWER STORAGE IN BEAR LAKE RESERVOIR

A Thesis

Presented in partial fulfillment of the requirements for the

Degree of Professional Engineer

Major in Civil Engineering

in the

University of Idaho Graduate School

by

William Vaughn Iorns

1959

The thesis of William Vaughn Iorns, "Segregation of Irrigation and Power Storage in Bear Lake Reservoir", is hereby approved:

Major Professor _____ Date _____

Head of Department _____ Date _____

Dean of College _____ Date _____

Dean of Graduate School _____ Date _____

Approved by the Graduate Council:

Secretary of Graduate Countil _____ Date _____

BIOGRAPHICAL SKETCH OF THE AUTHOR

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TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
Purpose of Study	1
Location and History	2
Description and Operation of Bear Lake Storage Development	4
Storage Rights	6
Use of Bear Lake Stored Water	7
THE PROBLEM	9
ANALYSIS OF THE PROBLEM	11
A Simplified Method for Segregation Study	11
Definitions	14
Basic Assumptions	16
River system as a unit	16
Effect of regulating reservoirs	17
Return flow and natural losses	17
Segregation Study Computations and Explanation of Method	18
General	18
Bear Lake under natural conditions	18
Winter-storing period	19
High-water storing period	21
Release period	23

PAGE

Summary of 1947 water year 27

CONCLUSIONS 27

ILLUSTRATIONS

Figure 1.--Map of Bear River Basin. 3

2.--Hydrographs for 1947 water year . . . . . (pocket)

3.--Cumulative gains and losses in Bear Lake under natural conditions 20

4.--Maximum amount of storable water in Bear Lake. 29

5.--Maximum amount of storable water in Bear Lake from Bear River 30

6.--Maximum amount of storable water in Bear Lake from tributary inflow 31

7.--Irrigation stored water requirement of lands below Bear Lake 32

8.--Bear Lake stored and storable water used in power production at Cutler Power Plant 33

9.--Cumulative Bear Lake storable water in excess of irrigation stored water requirement 34

TABLES

Table 1.--Power and irrigation stored water segregation data, 1924 to 1948. . . . . (pocket)

Tables. --(Continued)

2. --Monthly and water year change in contents of Bear Lake under natural conditions 20

SEGREGATION OF IRRIGATION AND POWER-STORAGE

IN BEAR LAKE RESERVOIR

BY

WILLIAM VAUGHN IORNS

INTRODUCTION

PURPOSE OF STUDY

The Bear River Compact Commission, composed of representatives of the States of Idaho, Utah, and Wyoming, and a representative of the United States was charged with negotiating and preparing an interstate compact to divide the waters of Bear River between the States of Idaho, Utah, and Wyoming. Before the compact could be negotiated a number of complex hydrologic and engineering studies had to be made. One of these was a study of the historical stored-water operations of Bear Lake Reservoir.

From July 1943 to February 1952 the writer served as project engineer of Bear River Investigations for the U.S. Geological Survey. When the Bear River Compact Commission was organized the writer was made chairman of the Engineering Committee. A report by the chairman was subsequently used by the Engineering Committee as a basis for identifying the storage space in the Bear Lake Reservoir that should be reserved primarily for irrigation purposes.

This paper, which is substantially the same as the original report submitted to the Committee, describes the Bear Lake storage-segregation problem and its solution.

LOCATION AND HISTORY

Bear Lake Reservoir is an interstate body of water in Bear Lake Valley near the southeastern corner of Idaho (Fig. 1). Approximately half of the surface area of the lake is in Idaho and half in Utah. The Bear Lake valley is a north-south depression formed by a block fault. The Bear River courses in a northwesterly direction across a broad alluvial plain in the northern end of the valley. At one time the lake occupied this area and the river was tributary to the lake. With the passage of time, sediment carried by the river filled the northern end of the ancient lake and the plain was formed.

Before Bear Lake was converted into the storage reservoir, a natural causeway, built up by wave action, extended along the northern shore line of the lake. On the northern side of this causeway, occupying depressions in the old Bear River delta, was a group of shallow interconnected lakes, called Mud Lake. A meandering outlet channel connected Bear Lake and Mud Lake and emptied into Bear River.

In the early 1900's the Telluride Power Company and the Utah Sugar Company began construction work to utilize the lake as an off-stream reservoir by diverting part of the waters of Bear River into Bear Lake. Their plan was to construct an inlet canal from Bear River

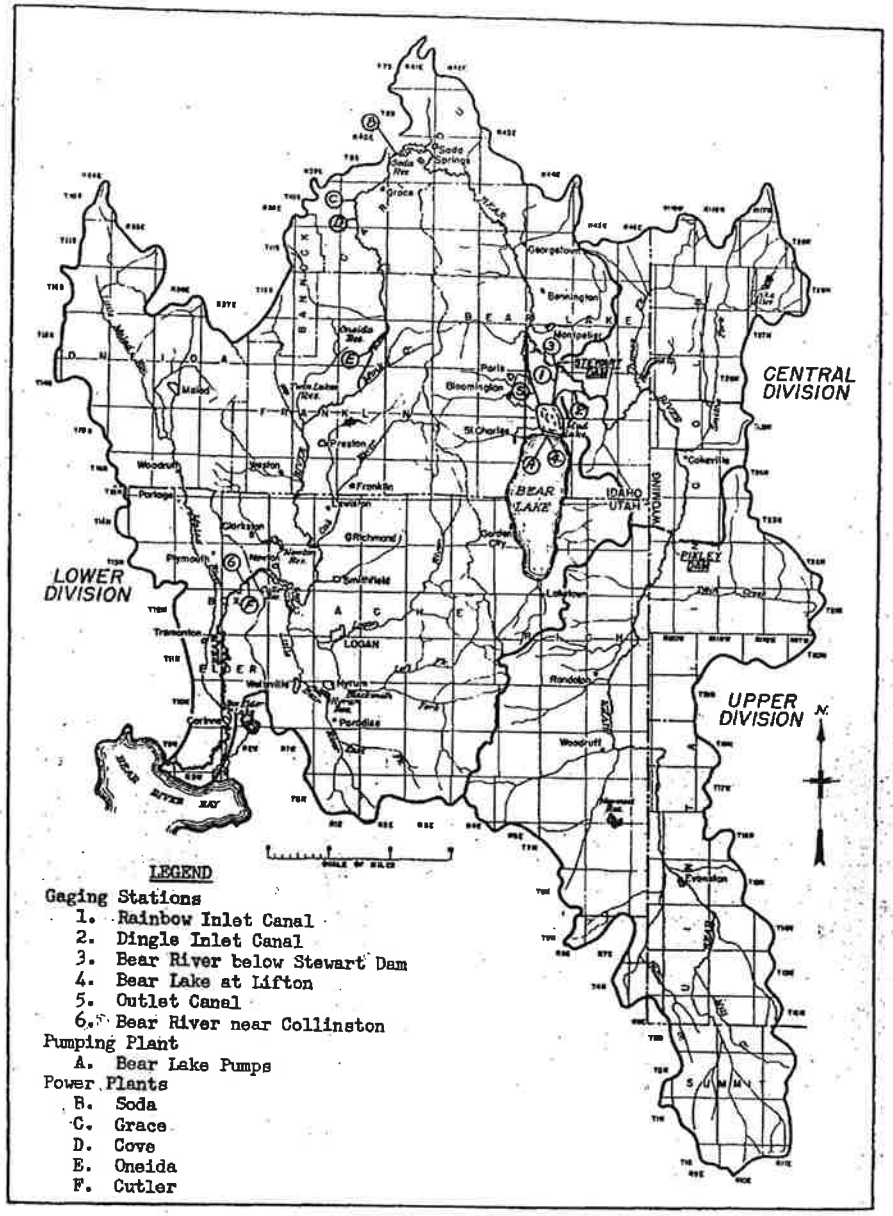


Figure 1.--Map of Bear River Basin.

85695

where it entered the valley and an outlet canal from the lake to the river near its exit from the valley. Construction was sufficiently completed in 1911 to provide a small amount of storage. The Utah Power and Light Company, in 1912, acquired the storage development interests of the Telluride Power Company and the Utah Sugar Company. The Utah Power and Light Company constructed a pumping plant at the north end of Bear Lake, built dikes around Mud Lake, and constructed new inlet and outlet canals of large capacity.

DESCRIPTION AND OPERATION OF BEAR LAKE STORAGE DEVELOPMENT

In converting Bear Lake into a storage reservoir the outlet channel from Bear Lake to Mud Lake was filled in approximately to the elevation of the natural causeway separating the two lakes. The causeway was also strengthened with additional fill material. This provided a substantial dike separating the two lakes. Gates were constructed in this dike to control interchange of water between the two lakes, and a pumping plant was constructed on the Bear Lake side of the dike to lift water from Bear Lake into Mud Lake. Mud Lake was enclosed by a second dike that was constructed across the valley along its northern shore line and an outlet canal was dredged through the west side of Mud Lake from the pumping plant to Bear River near the northwest end of the valley. Control gates were constructed in the channel of the outlet canal where it cut through the dike on the north side of Mud Lake. A diversion dam

was constructed across Bear River near the east side of the valley and an inlet canal from the river to Mud Lake was constructed. A small inlet canal constructed in the early years of the development was continued in operation.

The control gates in the outlet canal at Mud Lake dike and the control gates in the causeway separating Mud and Bear lakes can be operated to vary the elevation of Mud Lake. Water can be diverted from Bear River into Mud Lake and returned to the river through the outlet canal, or be diverted into Bear Lake. Water can also be withdrawn from Bear Lake into Mud Lake and released to the river through the outlet canal. However, water can only be withdrawn by gravity from Bear Lake when the elevation of the reservoir is within its top four to five feet of capacity elevation. When the lake surface drops below this level the water in Bear Lake is lifted by the pumps from Bear Lake into Mud Lake and then released by gravity flow through the outlet canal, to Bear River. Through operation of the control gates and the pumps, controlled storage in Bear Lake has a range of 21.65 feet. The rated capacity for this range of stage is 1,421,000 acre-feet.

Mud Lake has a storage capacity of approximately 34,000 acre-feet in a range of stage of 4.65 feet between the bottom of the shallow lake and the top of the outlet control gate at the dike. This lake serves principally as a regulating reservoir. In normal operation, the lift pumps are operated only during "dump-power" periods. The pumped water is temporarily stored in Mud Lake and released as required.

STORAGE RIGHTS

Storing of water in Bear Lake Reservoir and release of stored water down the natural channel of Bear River resulted in controversy between those having irrigation rights to natural-flow water and those having rights to stored water. The controversy culminated in litigation in the United States District Court of Idaho, Eastern Division. That court, in a decree dated July 13, 1920, defined the rights of the Utah Power and Light Company to store water in Bear Lake Reservoir and the rights of irrigation water users to natural-flow water in Idaho from Bear Lake downstream to the Idaho-Utah state line. In this decree the Utah Power and Light Company was awarded rights as follows:

"(a) Bear River and Bear Lake.

The right to divert from the natural-flow waters in the main channel of Bear River to storage in Bear Lake Reservoir, 3,000 cubic-feet per second with a date of priority of March 1, 1911, and 2,500 cubic-feet per second with a date of priority of September 11, 1912. This water to be diverted through the Rainbow and Dingle Inlet Canals, stored in the lake, and withdrawn as needed or required for generating electrical power and for irrigation purposes.

"(b) Tributaries to Bear Lake.

The right to store in Bear Lake Reservoir the natural flow of tributaries to Bear Lake, 300 cubic feet per second with a date of priority of September 1, 1912 and withdraw this stored water as needed or required for generating electrical power and for irrigation purposes.

"(c) From Mud Lake and tributaries to Mud Lake.

The right to store in Bear Lake Reservoir the natural flow of tributaries to Mud Lake, 200 cubic-feet per second with a date of priority of September 1, 1912, and

withdraw this stored water as needed or required for generating electrical power and for irrigation purposes."

The decree did not place a limit on the maximum storage which might be created in Bear Lake, or differentiate between power and irrigation-storage water interests.

USE OF BEAR LAKE STORED WATER

Stored water released from Bear Lake Reservoir is used for the production of electrical power and the irrigation of lands in Idaho and Utah. The Utah Power and Light Company has built five power plants along the main channel of Bear River between the reservoir and Great Salt Lake (Fig.1). The approximate gross power head of each is as follows:

Power plant	Approximate gross power head (feet)
Soda Plant at Alexander, Idaho	75
Grace Plant near Grace, Idaho	524
Cove Plant near Grace, Idaho.	98
Oneida Plant near Preston, Idaho	146
Cutler Plant near Collinston, Utah	120
Total.	963

Regulating reservoirs were constructed above three of the power plants, as part of the power-head and diversion works. The usable storage capacities of these reservoirs, which bear the name of the power plant above which they are located are as follows:

85695

Reservoir	Usable storage capacity (acre-feet)
Soda	11,800
Oneida	11,500
Cutler	15,300

Major irrigation canals that receive stored water from Bear Lake Reservoir under agreements between the Utah Power and Light Company and the canal companies are the Last Chance Canal, the West Cache Canal, the Cub River Irrigation Pump Canal, the Hammond Canal, and the West Side Canal. The Last Chance Canal, which diverts water from the river between the Soda and Grace power plants, is entitled to receive annual deliveries of stored water as needed to supplement its natural-flow irrigation rights. The West Cache Canal, which diverts water from the river a few miles below the Oneida power plant is entitled to receive 12,000 acre-feet of stored water annually. The Cub River Irrigation Pump Canal, which diverts water from the river a few miles above the Idaho-Utah state line, is entitled to receive 20,000 acre feet of stored water annually. The Hammond and West Side Canals, which divert water from the river at the Cutler Dam, are entitled to receive a total delivery of up to 900 cubic-feet per second of stored water whenever this amount is required to supplement their natural-flow rights.

The Utah Power and Light Company also has agreements with a number of canal companies, whose diversion of water from the river

are affected by fluctuations in the river level due to power plant operations, to supply some stored water as compensation. There are, in addition, a number of small canal companies that use electrical-powered pumps to divert water from the river. Most of the water pumped by these companies is stored water.

THE PROBLEM

After the completion of Bear Lake Reservoir and prior to the drought period of the 1930's, runoff in the Bear River drainage basin was greater than normal. As water was plentiful, large quantities of natural-flow water and water released from storage in Bear Lake was used for the production of hydro-electric power, that is, not only passed through the Soda, Grace, Cove, and Oneida power plants but also through the Cutler power plant and discharged into Great Salt Lake. Not realizing that a severe drought was approaching, the Utah Power and Light Company continued using stored water for power production into the early years of the drought. This practice resulted in the reduction of hold-over storage in the reservoir to a quantity less than needed to meet irrigation commitments throughout the period of deficient runoff ending in 1935.

In the Bear River Compact negotiations, consideration was being given to an allowance of additional storage upstream from Bear Lake. Additional upstream storage would result in some depletion of storable supplies for Bear Lake. This would be adverse to the interests of water

users dependent on Bear Lake for stored water. The downstream water users could be protected both from the possibility of over-draft on the reservoir for power purposes and upstream depletion by incorporating adequate provisions in the compact. To define what these provisions should be required a determination of the magnitude of storable water supply for Bear Lake Reservoir and a determination of the amount of stored water actually needed to fill the stored-water requirements of downstream irrigation water users.

A detailed stored-water and natural-flow segregation study of the reservoir and the reach of the river from Stewart Dam to Cutler Dam for a period of years that would be representative of long-term water supply conditions would be required to accurately determine these quantities. This kind of a segregation study would require intricate computations involving daily records of canal diversions, river discharges at control points, changes in reservoir contents, and contributions from tributaries. Evaporation losses, return flow from irrigation, time of transit of water down the river, and priority of water rights would also have to be taken into account. Some of this data, particularly that for tributary contributions and canal records, was non-existent or incomplete.

The temporary pondage of water in the regulating reservoirs and variations in time of transit of water through sections of the river, as a result of fluctuations in discharge caused by power-plant operations,

would complicate computations in making a detailed segregation study. It was apparent that the estimates and assumptions which would have to be made in an approach of this type would tend to make the results inaccurate and possibly inconclusive; therefore, a different and less complicated procedure would have to be devised. In further analysis of the problem and information needed, four basic questions were set up:

1. If Bear Lake Reservoir was used entirely for irrigation purposes what would have been the maximum amount of water that could have been stored in Bear Lake annually? Of the total maximum quantity

   (a) How much water would have been derived from Bear River, and

   (b) How much from tributary inflow into Bear Lake?

2. How much of the stored water released from Bear Lake in each irrigation season has been used for irrigation?

3. How much of the maximum amount of storable water, determined in question 1 above, has been used for power production purposes, that is, passed down the river system through the Cutler Power Plant and discharged into Great Salt Lake?

4. What is the relationship between the maximum storable water in Bear Lake and the total irrigation requirement for stored water?

ANALYSIS OF THE PROBLEM

A SIMPLIFIED METHOD FOR SEGREGATION STUDY

A study of daily hydrographs of diversions from Bear River to Bear Lake, change in contents of Bear Lake, releases from Bear Lake,

85695

and streamflow passing the Cutler Dam led to a simplified method for solving the problem. This method consisted of treating the river system between Stewart Dam and Cutler Dam as a unit and considering primarily inflow into the upper end of the unit and outflow from the unit. Any stored water released into the upper end of the unit would either be consumed for irrigation purposes or accounted for as part of the outflow from the unit. By dividing the water year into storing and stored-water release periods the total quantity of storable water could be determined. From the relationship of daily hydrographs of storable supply from Bear River, quantities of water actually diverted to storage in Bear Lake, and outflow from the river unit, the portion of the inflow into the upper end of the unit needed to fill prior irrigation rights could be identified.

The inflow from Bear River into the upper end of the unit can be computed by combining the flows of the two inlet canals with the flow of Bear River below Stewart Dam. The outflow from the unit is the flow in Bear River near Collinston, Utah. The quantities of water diverted from Bear River to storage in Bear Lake and the quantities of stored water released from Bear Lake can be computed from the daily flows of water in the two inlet canals and the Bear Lake Outlet Canal. The contributation to the river unit from tributary inflow to Bear and Mud Lakes and losses due to evaporation from the surface of Bear Lake can be computed from data on the changes in contents of Bear Lake in combination with diversions from Bear River to Bear

Lake and releases from Bear Lake to Bear River.

Gaging stations recording the discharge in the two inlet canals, the outlet canal, and the discharge of the river below Stewart Dam were installed in January 1922. A gage recording the contents of Bear Lake was installed in January 1921. A gaging station on Bear River near Collinston, Utah was established in July 1889. Daily records for these gaging stations, for the period of time since the stations were established have been published in the Water Supply Papers of the U.S. Geological Survey or are available in the files of the U.S. Geological Survey in Salt Lake City, Utah. The names of the six gaging stations whose locations are shown on Figure 1 are as follows:

Rainbow Inlet Canal near Dingle, Idaho
Dingle Inlet Canal near Dingle, Idaho
Bear River below Stewart Dam, near Montpelier, Idaho
Bear Lake at Lifton near St. Charles, Idaho
Bear Lake Outlet Canal near Paris, Idaho
Bear River near Collinston, Utah

The Bear River Compact Commission had previously adopted the period October 1, 1923 to September 1948 as a base period representative of long-term water supply conditions in the Bear River Basin. The analysis of Bear Lake stored-water operations was therefore limited to this period.

Definitions and assumptions adopted in the segregation study in application of the simplified procedure are given in the following sections.

85695

DEFINITIONS

Water year is the twelve-month period beginning on October 1 of one year and ending September 30 of the following year. The year in which this period ends is used to designate any particular water year.

Cubic foot per second is the rate of discharge of a stream whose channel is one square foot in cross-sectional area and whose average velocity is one foot per second.

Acre-foot is the quantity of water required to cover an acre to the depth of one foot and is equivalent to 43,560 cubic feet. A cubic foot per second flowing for 24 hours is equivalent to 1.983471 acre-feet.

Natural-flow water is the water in Bear River exclusive of water released from storage in Bear Lake.

Prior-irrigation rights is the downstream irrigation water rights for natural-flow water having an earlier dated priority than the Bear Lake storage right.

Total streamflow of Bear River above Stewart Dam is the combined discharge of Bear River below Stewart Dam, Rainbow Inlet Canal and Dingle Inlet Canal.

Stewart Dam diversion loss is the leakage through Stewart Dam when all the streamflow in Bear River is being diverted into the Rainbow and Dingle Inlet Canals. It is equal to approximately 40 acre-feet per day.

By-passed water is the water released through the gates at Stewart Dam or routed back to the river through the inlet canals, Mud Lake,

and the outlet canal.

Maximum storable water from Bear River is the total streamflow above Stewart Dam during the storing period less the Stewart Dam diversion loss and less the water by-passed to fill prior-irrigation rights. This water would be storable in Bear Lake.

Water diverted to Bear Lake is the water diverted from Bear River and actually stored in Bear Lake. It is equal to the total discharge of Rainbow and Dingle Inlet Canals minus the discharge in the Outlet Canal.

Release period is the period in the irrigation season that water is being released from Bear Lake and begins on the day that the discharge in the Outlet Canal exceeds the combined discharge in the Rainbow and Dingle Inlet Canals and ends on September 30.

Storing period is from October 1 to the day before the beginning of the release period. It is divided into a winter-storing period, beginning on October 1 and ending on March 31, and a high-water storing period, beginning on April 1 and ending on the day before the beginning of the release period.

Stored or storable water used for power production is stored water released from Bear Lake or by-passed storable water that is passed through the turbines at the Cutler power plant for the production of electrical power.

Apparent stored water used for irrigation is water released from Bear Lake during the release period and consumed in irrigation even

though electrical power is produced as the water flows downstream to the last point of diversion for irrigation at Cutler Dam.

Irrigation stored-water requirement is the amount of stored water consumed by irrigation of lands, plus the stored water losses incurred in delivering stored water to the lands, plus the losses incurred in storing water in the Bear Lake Reservoir.

Storable water from Bear Lake tributary inflow is the water which would accumulate in Bear Lake under natural conditions during the storing period.

Bear Lake evaporation loss is the loss in Bear Lake contents under natural conditions during the release period.

Cutler diversion loss is the leakage through Cutler Dam when no water is passing the dam for power production. This leakage averages about 45 acre-feet daily.

BASIC ASSUMPTIONS

River System as a Unit

The river system between Stewart Dam and Cutler Dam can be treated as a unit if inflow into the upper end of the unit from Bear River and Bear Lake and outflow from the lower end of the unit, as measured at the Bear River near Collinston gaging station, are considered as the controlling factors. Any stored water released into the upper end of the unit would either be consumed for irrigation purposes or be an indentifiable part of the outflow from the unit. The portion of

the natural-flow water entering the upper end of the unit needed for natural-flow irrigation rights within the unit could be identified.

Effect of Regulating Reservoirs

Mud Lake and the three downstream regulating reservoirs have a total capacity of 72,600 acre-feet. Under certain conditions of operation of the system, substantial quantities of water could be stored in these reservoirs during the storing period and released for power or irrigation during the release period. Another possibility is that water released from Bear Lake during the release period might be stored and released later. In treating the river as a unit between Bear Lake and Cutler Dam, either or both of these occurrences could introduce serious errors. If the reservoirs functioned only for re-regulation purposes, their effect would be negligible in comparison to the total amount of stored water involved. For this segregation study it was assumed that they were operated only as regulation reservoirs and their combined effect would be negligible. However, subsequent to this study, the operation of these reservoirs was investigated and it was found that their inclusion in the study would not have materially changed any of the findings.

Return Flow and Natural Losses

Between Bear Lake and Cutler Dam, a portion of the stored water that is applied to the lands is returned to the river and is available for re-use. Also, in this reach of the river there are evaporation losses and other natural losses. Part of these losses

should be borne by natural-flow water and part by stored water. In this study, the assumption was made that the pro rata effect of these gains and losses, that should be added to or subtracted from stored waters, would be taken into account by treating the river system between Bear Lake and Cutler Dam as a unit.

SEGREGATION STUDY COMPUTATIONS AND EXPLANATION OF METHOD

General

Summary data and computations made in the simplified segregation study for the period October 1, 1923 to September 30, 1948 are shown in Table 1 (pocket). Column headings in the table conform to the definitions and footnotes to the table explain the source of data and computations. In the following, the segregation method is discussed and explained in detail using the 1947 water year as an example. Hydrographs of the daily quantities at gaging stations and combinations of gaging station for the 1947 water year are shown on Figure 2 (pocket).

Bear Lake under Natural Conditions

If water were not withdrawn from Bear Lake and not diverted to the lake from Bear River, the water contained in the lake at any time would be the resultant of tributary inflow less evaporation loss. By algebraically subtracting monthly diversions from Bear River to Bear Lake and releases from Bear Lake (releases are given negative

signs) from the monthly plus and minus changes in Bear Lake contents, the increase or decrease in Bear Lake under natural conditions can be computed. Computed monthly and annual change in contents of Bear Lake under natural conditions for the period 1924 to 1948 are shown in Table 2. This table is used in computing the maximum storable water in Bear Lake from tributary inflow during each storing period and the net loss in the reservoir, resulting from evaporation, during each release period. Monthly quantities are used except for the months in which storing of water ends and stored water release begins. For these months additional computations using daily quantities are required. The computed storable water from Bear Lake tributary inflow under natural conditions was 84,100 acre-feet (col. 17, table 1) during the storing period in 1947. The computed Bear Lake evaporation loss under natural conditions was 25,630 acre-feet (col. 27, table 1) during the release period in 1947.

Figure 3 shows a cumulative graph of the annual gains and losses for Bear Lake under natural conditions, beginning with zero on October 1, 1923. This graph indicates that over a long period of time, the gain in Bear Lake from tributary inflow only slightly exceeds the loss. If Bear Lake were entirely dependent on tributary inflow and did not overflow, the maximum change in contents during the twenty-five year period would have been about 250,000 acre-feet.

Winter-Storing Period

The winter-storing period extends from October 1 to March 31.

This table is slightly in error prior to 1935 & in a few subsequent years — (old compilation or change in content used) See 1950 compilation WSP 1314

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Total
1924	+13,300	+13,200	+13,200	+5,700	+14,200	+21,100	+14,400	+7,300	-3,400	-8,800	-17,600	-23,300	+22,700
1925	+1,400	-21,900	+12,500	+13,900	+13,500	+27,400	+18,900	+25,400	+7,700	-5,700	-20,600	-8,300	+60,100
1926	-26,000	-9,700	-5,900	+5,700	+14,400	+28,900	+16,700	+8,000	-17,800	-15,700	-16,400	-26,800	-46,400
1927	-14,500	-9,900	-18,400	+17,300	+18,800	+34,400	+18,000	+20,600	+14,100	-21,900	-30,200	+800	+28,100
1928	-8,900	+900	-0	-2,000	+5,400	+34,700	+13,500	+18,700	+21,300	-19,100	-25,900	-33,000	+5,800
1929	+10,400	-6,400	+7,700	+11,400	+13,700	+26,800	+35,200	+17,200	+11,500	-16,300	-14,700	-6,500	+90,000
1930	-17,400	-17,800	-400	+6,900	+13,500	+22,100	+21,200	+14,600	-8,200	-21,300	+500	-18,200	-4,500
1931	-6,200	-15,200	-5,500	+7,400	+7,400	+15,100	+12,500	+2,100	-18,800	-35,000	-26,000	-24,500	-87,800
1932	-9,100	-13,200	+5,800	+12,100	+13,100	+18,500	+38,500	+9,900	+18,200	-1,100	-18,100	-24,400	+50,200
1933	-14,500	-7,300	-5,500	+7,800	+11,700	+6,600	+27,300	+23,100	+6,500	-22,500	-34,400	-25,800	-26,700
1934	-12,700	-14,000	+3,700	+3,400	+7,900	+6,800	-3,000	-8,000	-26,100	-24,400	-28,200	-38,200	-132,800
1935	-13,400	+1,700	+500	-1,500	+14,500	+12,700	+25,000	+2,500	+8,900	-23,400	-27,800	-33,300	-33,500
1936	-17,600	-7,400	-800	+14,600	+22,200	+14,100	+33,900	+30,100	+27,200	-11,400	-8,500	-22,400	+73,800
1937	-2,600	+4,700	+2,300	+4,200	+11,300	+17,500	+27,800	+32,000	+10,100	+1,400	-32,800	-24,300	+51,400
1938	-8,200	-2,000	-3,800	-200	+5,100	+23,900	+25,400	+27,400	+7,700	-8,300	-23,500	-14,400	+35,700
1939	-17,000	-11,900	+3,700	+7,700	+7,600	+21,400	+13,700	+11,600	-15,000	-21,700	-28,000	-16,300	-46,500
1940	-18,500	-13,000	-2,300	+3,200	+7,400	+14,100	+2,600	-7,900	-22,000	-26,900	-34,000	-6,100	-101,400
1941	-6,100	-10,400	+300	+2,400	+3,200	+15,500	+9,300	+8,400	-18,500	+6,400	-17,900	-24,900	-31,300
1942	-3,400	-8,700	-300	+1,700	+13,100	+19,000	+18,900	+15,100	-3,700	-29,400	-19,100	-15,500	-10,300
1943	-9,800	-7,800	-4,500	+1,800	+10,800	+38,500	+35,600	+23,200	+23,600	-11,200	-20,800	-21,500	+55,800
1944	-12,800	-6,500	-3,800	+4,400	+11,900	+18,800	+32,600	+15,200	+12,600	-26,700	-36,100	-23,200	-12,600
1945	-14,100	-2,200	-4,300	+2,100	+7,900	+10,700	+15,400	+20,400	+18,400	-7,000	-20,800	-20,000	+6,400
1946	-8,600	+11,100	+4,800	+9,200	+7,800	+26,800	+40,400	+35,300	+4,600	-18,400	-8,600	-23,200	+80,200
1947	-8,300	-2,900	+14,100	-400	+18,900	+20,000	+4,500	+24,000	+16,100	-6,200	-8,400	-13,000	+58,400
1948	-17,800	-8,800	-1,800	+7,900	+11,200	+11,600	+12,300	+19,800	+18,600	-10,700	-25,900	-20,500	-4,600

Table 2.--Monthly and water year change in contents, in acre-feet, of Bear Lake under natural conditions.

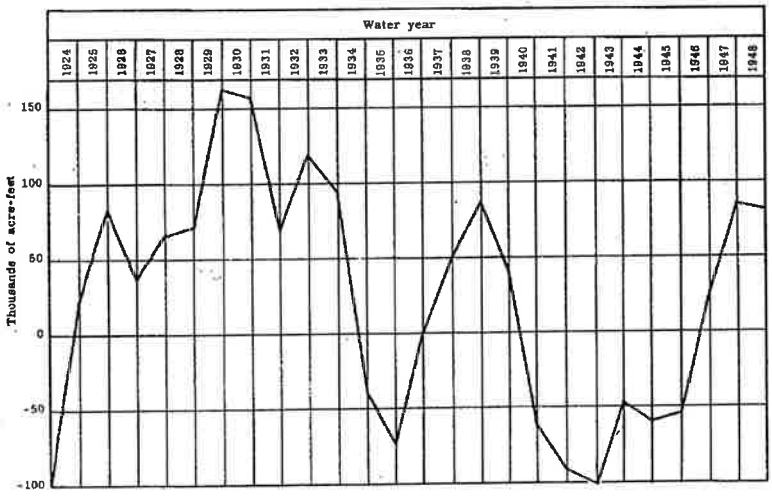


Figure 3.--Cumulative gains and losses in Bear Lake under natural conditions.

The total streamflow above Stewart Dam is indicated by the dash-dot line on Figure 2. The combined total for the winter storing period in 1947 was 120,400 acre-feet (col. 3, table 1). The shaded area below the dash-dot line indicates the maximum amount of Bear River water which could have been diverted to storage in Bear Lake during this period. The quantity of storable water represented by the shaded area is 113,000 acre-feet (col. 5, table 1). This is computed by deducting from the total streamflow above Stewart Dam the Stewart Dam diversion loss of 40 acre-feet daily, or 7,200 acre-feet (col. 4, table 1). The dotted hydrograph shows the daily quantity of water that was actually diverted and stored in Bear Lake. These daily quantities were computed by subtracting the discharge in the Outlet Canal from the combined discharges of the Rainbow and Dingle Inlet Canals when the differences were greater than zero. The area under the dotted hydrograph totals 39,800 acre-feet (col. 6, table 1) for the winter storage period. The solid-line hydrograph shows the daily quantities that were withdrawn from storage in Bear Lake. These were computed by subtracting the combined discharge of the Rainbow and Dingle Inlet Canals from the discharge of the Outlet Canal when the differences were greater than zero. The double cross-hatched area under the solid-line hydrograph represents stored water that was withdrawn from Bear Lake for power production.

High-Water Storing Period

The high water storing period in 1947 extended from April 1 to

July 7. In this period the combined total streamflow above Stewart Dam (area under dash-dot hydrograph) was 217,600 acre-feet (col. 8, table 1) of which 180,000 acre-feet (col. 9, table 1) was diverted to storage in Bear Lake (area under dotted hydrograph). In addition to these two hydrographs the hydrograph of discharge for the Bear River near Collinston gaging station is shown as a short-dash line on Figure 2. As the time interval for water to travel from Bear Lake to Cutler Dam is three days, this hydrograph is plotted three days early (day of occurrence at Collinston minus three days). Plotting in this manner eliminates the time lag and superimposes on the hydrogaphs of water entering the upper end of the unit, or released from Bear Lake, the hydrograph of water passing out of the lower end of the unit. Included in the Collinston hydrograph would be any water arriving from the upper end of the unit.

If all of the storable water above Stewart Dam had been diverted into storage in Bear Lake the dotted line would have been about 20 cubic-feet per second, or 40 acre-feet daily, below the dash-dot line. For the periods May 20 to May 30, June 1 to June 11, and June 18 to July 7, the dotted-line hydrograph is much more than 20 cubic-feet per second below the dash-dot line. This indicates that storable water was by-passing Bear Lake. In the first period, May 20 to May 30, and part of the last period, June 21 to July 7, the hydrograph for Bear River near Collinston drops and approaches zero. It was assumed that the water by-passing Bear Lake in these two periods represents natural-

flow water that was by-passed for prior-irrigation rights. The water by-passed for prior-irrigation rights is indicated by the areas in large dots.

During the periods June 1 to 11 and June 18 to 20, when the dotted line dropped below the dash-dot line, there was sufficient inflow below Stewart Dam to fill all irrigation requirements. Water by-passing Bear Lake at these times could have been stored in the lake, but as it was by-passed when not needed for prior-irrigation rights, it was assumed to have been used for power production. The water assumed to have been used for power purposes is indicated by the shaded areas above the dotted line, and amounted to 7,800 acre-feet (col. 11, table 1). This quantity was computed for the periods indicated, by subtracting the amount actually diverted to Bear Lake from the total streamflow above Stewart Dam less the Stewart diversion loss. By adding this quantity to the quantity actually diverted to Bear Lake the total maximum storable of 187,800 acre-feet (col. 13, table 1) from Bear River was obtained.

Release Period

Natural-flow irrigation rights for canals that divert above Cutler Dam are older in priority than any rights below Cutler Dam. These canals would divert all available natural flow water and make up the difference between available natural flow water and their irrigation requirements from stored water. If no more water was released from Bear Lake than was necessary with the natural-flow water available to fill irrigation requirements, there would be no water passing the

Cutler Dam except leakage. If more water was released from Bear Lake than required to fill irrigation requirements, or if water was released to be passed through the Cutler plant for power production, then the extra water or power water would pass out of the lower end of the river unit and be measured at the Bear River near Collinston gaging station. As power is always produced with any water that passes the dam except leakage, it follows that any amount of water, up to the limit of the amount released from Bear Lake three days earlier, that passes Cutler Dam during the release period is stored water used for power production.

If Bear Lake was operated entirely for irrigation purposes the total stored water required for this purpose would be the amount of water consumed in irrigation, the losses in delivering the stored water to the lands, and the losses in the reservoir. In treating the river between Bear Lake and Cutler Dam as a unit, all losses are taken into account except leakage loss at the last point of diversion and losses in the reservoir. The leakage loss at the last point of diversion is the Cutler diversion loss. The reservoir loss would be the evaporation loss in Bear Lake during the release period.

In 1947 the release period extended from July 8 to September 30, which is the period of time that the discharge in the Outlet Canal exceeded the combined discharges of the Rainbow and Dingle Inlet Canals. The amount of water released from Bear Lake in 1947 is indicated on Figure 3 by the solid-line hydrograph. The total amount

of water represented by this hydrograph is 133,013 acre-feet (col. 23, table 1). The normal time of travel for water that is released from Bear Lake to reach Cutler Dam is three days. On Figure 3 the discharge of the Bear River at the Collinston gaging station (short-dash line) is plotted three days early, thus superimposing on the daily Bear Lake storage-release hydrograph the same water arriving at Cutler Dam.

The portion of stored water released from Bear Lake which passed Bear River near Collinston gaging station is represented by the double cross-hatched area. This area is defined by the hydrograph for Bear River near Collinston for the period July 11 (plotted 11-3 day) to August 8 (plotted 8-3 day); the hydrograph for the release from Bear Lake August 6 to August 17; the hydrograph for Bear River near Collinston August 21 (plotted 21-3 day) to September 17 (plotted 17-3 day); and the hydrograph for the release from Bear Lake September 15 to September 30. The amount of water released from Bear Lake that passed the Collinston gaging station (col. 24, table 3) is summarized as follows:

Gaging station	Period	Acre-feet
Bear River near Collinston. . . .	July 11 to Aug. 8	16,221
Bear Lake storage release . . .	Aug. 6 to Aug. 17	18,363
Bear River near Collinston . . .	Aug. 21 to Sept 17	34,034
Bear Lake storage release . . .	Sept. 15 to Sept. 30	12,038
Total		80,656

The apparent amount of water released from Bear Lake that was

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used for irrigation is represented by the single hatched area on Figure 2. This is the area under the hydrograph of water released from Bear Lake in excess of the amount of Bear Lake released water that passed the Collinston gaging station. By deducting the amount of stored water passing the Collinston gaging station from the total water released from Bear Lake the apparent amount of stored water used for irrigation is obtained. This amounted to 52, 357 acre-feet (col. 25, Table 1) in 1947.

In these computations the Cutler diversion loss is included in the computed amount of Bear Lake water passing the Collinston gaging station and excluded from apparent amount of Bear Lake water used for irrigation. To obtain the quantity of water used in power production the Cutler Dam diversion loss must be deducted from the amount of Bear Lake water passing the Collinston gaging station. In 1947 the irrigation-storage release period was 85 days. This number of days multiplied by the average daily diversion loss of 45 acre-feet gives a total diversion loss of 3, 825 acre-feet (col. 26, table 1). Deducting this from the 80, 656 acre-feet of stored water that passed the Collinston gaging station gives 76, 800 acre-feet (col. 28, table 1) as the amount of water used in power production. The 76, 831 acre-feet by actual subtration is rounded off to 76, 800 acre-feet in Table 1.

The total storage requirement for irrigation is the sum of the Cutler diversion loss of 3, 825 acre-feet, (col. 26, table 1), the Bear Lake evaporation loss of 25, 630 acre-feet (col. 27, table 1), and the apparent Bear Lake storage used for irrigation of 52, 357 acre-feet.

These total 81,800 acre-feet (col. 29, table 1). The actual total of 81,831 acre feet is rounded off to 81,800 acre feet in Table 1.

Summary of 1947 Water Year

Answers to the four questions set up for the segregation study for the 1947 water year are contained on Table 1.

The maximum storable water in Bear Lake Reservoir in 1947 was 385,100 acre feet (col. 19, table 1). Of this 301,000 acre-feet (col. 18, table 1) would have come from Bear River and 84,100 acre-feet (col. 17, table 1) from Bear Lake tributary inflow. During the irrigation season the irrigation stored water requirement was 81,800 acre-feet (col. 29, table 1). In this year the maximum storable water exceeded the irrigation stored water requirement by 303,300 acre-feet (col. 30, table 1).

The total Bear Lake stored and storable water used for power production during the 1947 water year is the sum of stored water used for power production during the release period and the storable water used for power production during the storing period. This quantity totalled 158,700 acre-feet (col. 32, table 1) for the 1947 water year.

CONCLUSIONS

Because of the assumptions and factors involved in the simplified segregation study the derived data summarized on Table 1 can be regarded only as reasonably accurate approximations. In view of

the magnitude of the problem the data is considered to be sufficiently accurate to warrant its use in supplying information on the adequacy of Bear Lake storable supplies and historical uses of Bear Lake storage for irrigation and power-production purposes.

On page 11 four basic questions were listed outlining the information needed to be derived from the segregation study. Answers to these questions are contained in the summary data on Table 1. On the following pages the quantities of water pertinent to the basic questions are graphically illustrated and discussed. A computation is also made of the amount of Bear Lake storage that should be reserved for irrigation purposes. On the assumption that the irrigation water users, dependent on Bear Lake for stored water, should be fully protected against overdraft on the reservoir for power production this computation includes an estimated amount of additional storage equal to the estimated deficiency in stored water supply that occurred in 1935. If the compact makes provision for additional storage upstream from Bear Lake the irrigation reserve should be increased to offset the increased depletion in Bear Lake storable supplies that would result from additional upstream storage.

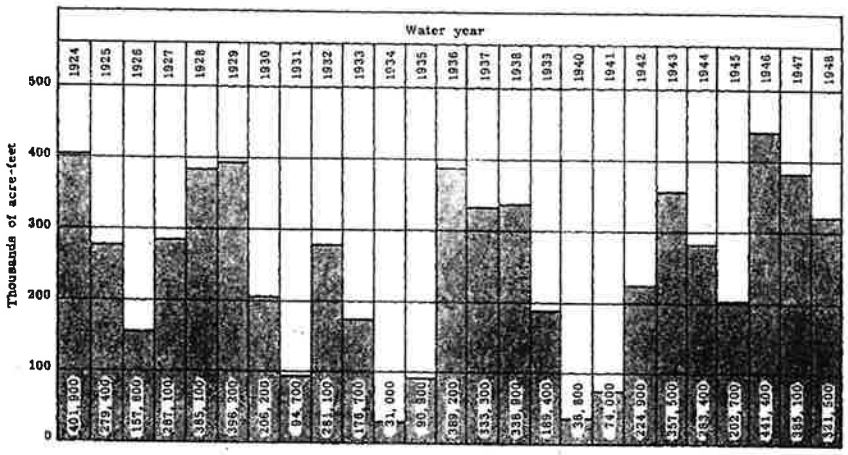


Figure 4.--Maximum amounts of storable water in Bear Lake.

In Figure 4 are shown the computed maximum amounts of water (col. 19, table 1) that could have been accumulated in Bear Lake during each storing period, if the reservoir had been operated entirely for irrigation purposes. The amounts of storable water have ranged from 31,000 to 441,000 acre-feet. The annual average for the 25-year period is 254,000 acre-feet. A reservoir with a detention capacity of about 3.1 times the average annual storable supply would be required to equate the annual reservoir yield to the average annual storable supply of water. The capacity of Bear Lake is more than ample for this purpose as the usable capacity is 5.58 times the computed average annual storable supply.

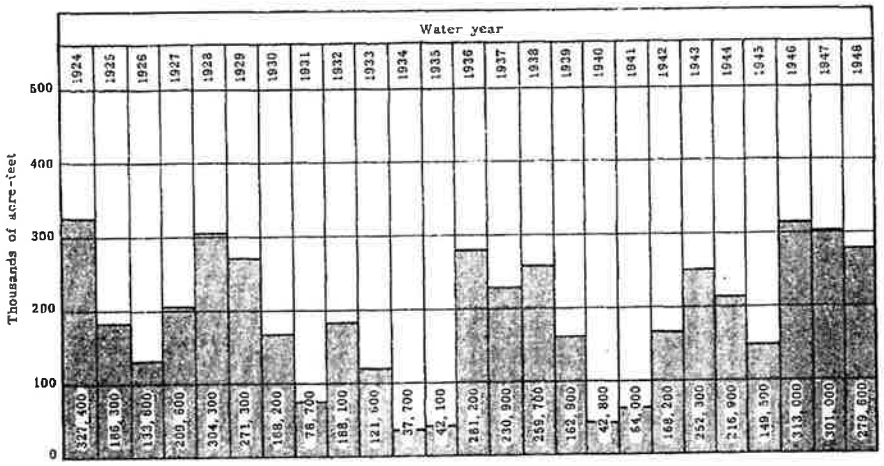


Figure 5. --Maximum amounts of storable water in Bear Lake from Bear River.

In Figure 5 are shown the computed maximum amounts of water (col. 18, table 1) that could have been diverted from Bear River and stored in Bear Lake during each storing period, if the reservoir had been operated entirely for irrigation purposes. The storable quantities have varied from a minimum of 37,700 acre-feet to a maximum of 327,400 acre-feet, the 25 year average being 191,600 acre feet. Bear River could have yielded substantial annual storable supplies except in 1931, 1934, 1935, 1940, and 1941. Low storable supplies in these years indicate that storable supplies at any potential reservoir site upstream from Stewart Dam would also be limited.

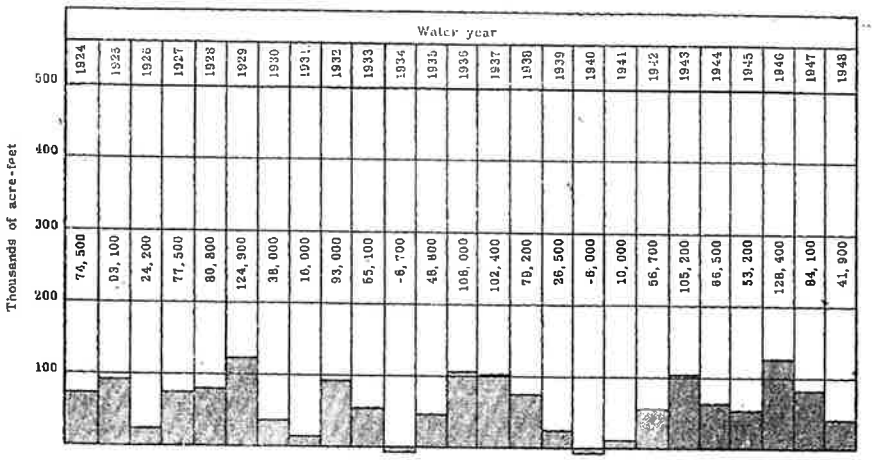


Figure 6.--Maximum amounts of storable water in Bear Lake from tributary inflow.

Figure 6 shows the computed amounts of water (col. 17, table 1) that would have accumulated in Bear Lake during each storing period from tributary inflow if no water had been released from the reservoir or diverted into the reservoir from Bear River during the storing period. The quantities that would have accumulated, in the storing periods, have varied from a net loss of 6,700 acre-feet to a net maximum of 128,400 acre-feet and averaged 63,000 acre-feet for the 25-year period. In the two years of lowest run-off the losses due to evaporation from the reservoir's surface during the storing period, exceeded the tributary inflow.

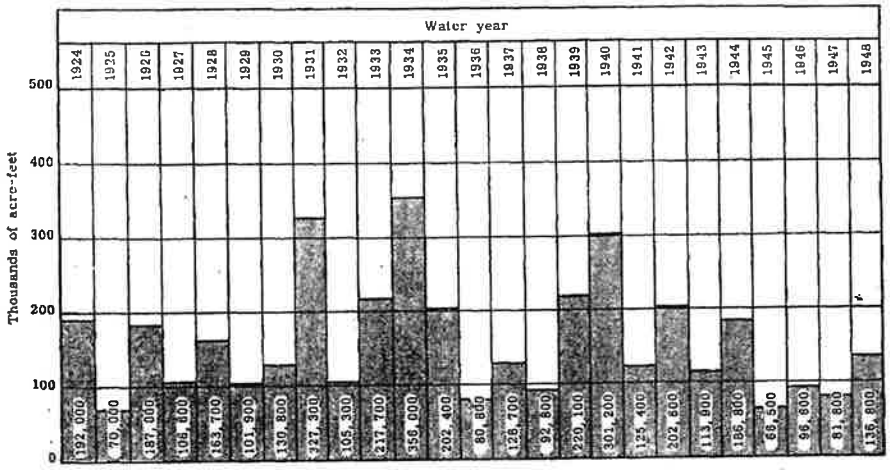


Figure 7.--Irrigation stored water requirements of lands below Bear Lake.

Figure 7 shows the computed annual stored water requirements for irrigation (col. 29, table 1) of lands dependent on Bear Lake for supplemental irrigation water. These computed quantities are based on the assumption that Bear Lake was used entirely for irrigation purposes. In all years, available stored water was adequate to meet irrigation requirements, except in 1935 when the supply of stored water was completely depleted before the end of the irrigation season. Water users who are dependent on Bear Lake for stored water have estimated that as much as 100,000 acre-feet more stored water would have been used for irrigation purposes in 1935 had it been available.

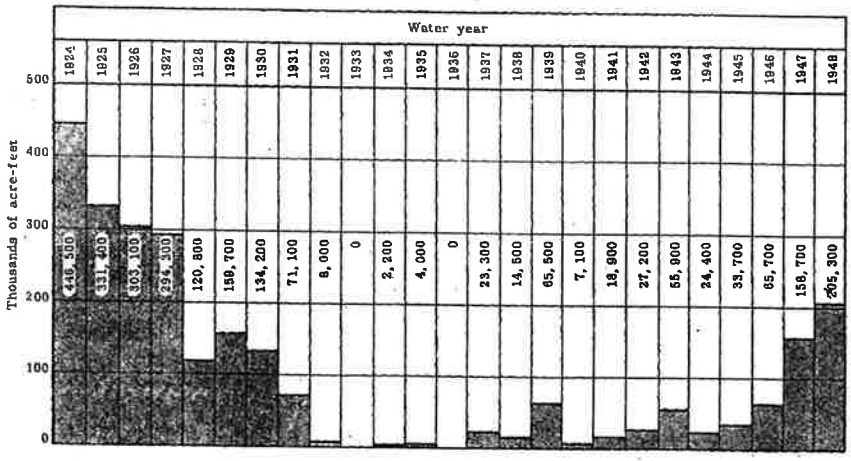


Figure 8.--Bear Lake stored and storable water used in power production at Cutler power plant.

Figure 8 shows the annual quantities of Bear Lake stored and storable water (col. 32, table 1) computed to have been passed through the Cutler Power Plant for the production of electric power. Before the drought years large quantities of water were used for power purposes. Continuance of the high draft on stored water for power production in the early part of the drought period depleted the reservoir to a point that the stored supply of water in the last year of the drought was not sufficient to meet irrigation demands.

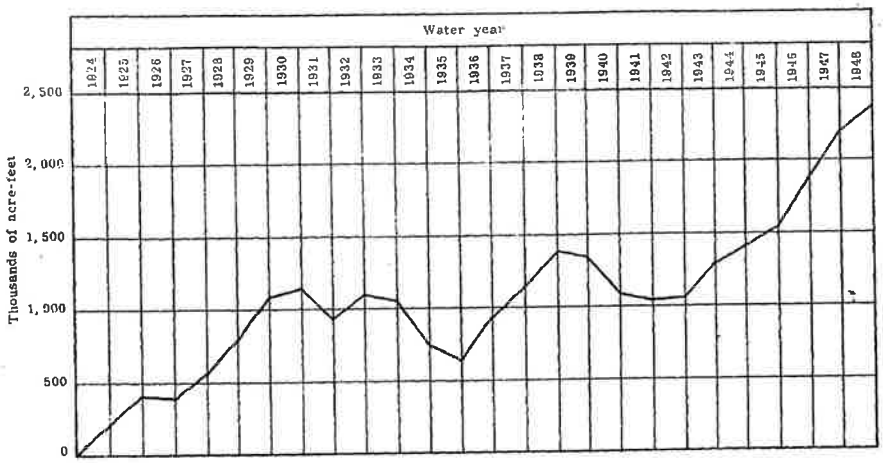


Figure 9.--Cumulative Bear Lake storable water in excess of irrigation stored water requirement.

Figure 9 shows the accumulative excess of annual Bear Lake storable water supplies over annual storage requirements for irrigation, beginning with zero storage on October 1, 1923 (col. 31, table 1). The period 1931 through 1935 was the most severe period of drought in the 25-year period as shown by the graph. The decline in the graph during this period is indicative of the quantity of water that should be reserved in Bear Lake for irrigation. The amount that should be reserved in the reservoir would be the amount that the irrigation requirements, beginning May 22, 1930 and ending September 30, 1935, exceeded the total storable supplies, plus the estimated 100,000 acre-feet shortage of stored water in

1935. The following table shows the extent that irrigation requirements for the indicated period exceeded the storable water:

Water Year	Maximum Storable Water (acre-feet)	Irrigation Requirement (acre-feet)
1930	-	130,800
1931	94,700	327,300
1932	281,100	105,300
1933	176,700	217,700
1934	31,000	356,000
1935	90,900	302,400 (a)
Total	674,400	1,439,500

(a) Includes estimated 100,000 acre feet shortage in 1935.

The irrigation requirement exceeded the total storable supply by 765,100 acre-feet. From this the following are indicated: whenever the stored water in Bear Lake Reservoir drops below about 765,100 acre-feet all stored and storable waters should be reserved for irrigation purposes; and, whenever the stored water in the reservoir is less than this amount, water should not be released from the reservoir for the purpose of producing power at the Cutler Power Plant.

Attachment Z JIBSON, HISTORY OF COMPACT

Notes:

This report, entitled "Segregation of Irrigation and Power Storage in Bear Lake Reservoir," was prepared by William Vaughn ("W.V.") Iorns initially as a thesis and later was released by the U.S. Department of the Interior as an Open File Report in 1959. Mr. Iorns was a hydraulic engineer employed by the U.S. Geological Survey. Among other positions, he served as Chairman of the Engineering Committee of the Bear River Compact Commission. DOI Report, p. iii (Attachment Y beginning on page 243). This report is substantially the same as the report Mr. Iorns prepared for the Commission in support of its investigation leading to the Irrigation Reserve. DOI Report, p. 1. The report was prepared with the assistance of Wallace N. Jibson. DOI Report, p. iv. Mr. Jibson is the author of *History of the Bear River Compact* (Nov. 31, 1991). Among other positions, he served as Federal Representative (and later Chairman) of the Bear River Commission from 1947 to 1989.

History of the Bear River Compact

By Wallace N. Jibson

November 1991



BEAR RIVER COMMISSION
SALT LAKE CITY, UTAH

85695

COVER PHOTOGRAPHS:

TOP PHOTOGRAPH: Bear River Commission and support staff at signing of Amended Bear River Compact, December 22, 1978.

Standing, left to right:
Daniel F. Lawrence, S. Paul Holmgren, J. W. Myers, John A. Teichert, George L. Christopulos, Simeon Weston
Seated at table, left to right:
Don W. Gilbert, Clifford J. Skinner, J. Daniel Roberts, E. J. Skeen, Wallace N. Jibson, Connie Borrowman

MIDDLE FIVE PHOTOGRAPHS, LEFT TO RIGHT:

- ***First photograph***: Utah Commissioners at signing of Amended Compact.
  Standing: Simeon Weston
  Seated, left to right: S. Paul Holmgren and Calvin Funk

Second, third, and fourth photographs: Wyoming Commissioners at signing of Amended Compact.

- ***Second photograph***: George L. Christopulos
- ***Third photograph (to the right)***: J. W. Myers
- ***Fourth photograph (below second & third)***: John A. Teichert

- ***Fifth photograph***: Idaho Commissioners at signing of Amended Compact.
  Seated, left to right: Don W. Gilbert, Clifford J. Skinner, J. Daniel Roberts

BOTTOM THREE PHOTOGRAPHS, LEFT TO RIGHT:

- ***First photograph***: Commission Chairman signing Amended Compact with Commission Attorney looking on.
  Seated, left to right: E. J. Skeen and Wallace N. Jibson
- ***Second photograph***: Commission officers and staff.
  Seated, left to right: Clifford J. Skinner (Vice Chairman), E. J. Skeen (Attorney), Wallace N. Jibson (Chairman), Connie Borrowman (Secretary), and Daniel F. Lawrence (Secretary-Treasurer)
- ***Third photograph***: United States President Jimmy Carter

History of the Bear River Compact

By Wallace N. Jibson



BEAR RIVER COMMISSION
SALT LAKE CITY, UTAH

November 1991

Preface

The original Bear River Compact of 1958 and the Amended Bear River Compact of 1980, in conjunction with the Bylaws of the Bear River Compact Commission, various court decrees, and the laws of the States of Wyoming, Idaho, and Utah, establish the framework under which the waters of the Bear River are divided. This framework regulates how the waters of the Bear River are distributed to water users in Wyoming, Idaho, and Utah as the River threads its way in and out of state lines, first in a northerly direction, then with a turn to the west and a reversal of directions to the south, and eventually terminating in the Great Salt Lake.

Because of the River's sinuous path across state lines, interstate agreements were necessary. The documents—which compose the legal framework for division of the river between the states—stand for themselves. However, behind those formal documents is a history of intriguing stories, long negotiations, and well-thought-out objectives and compromises. No one has been more involved in the establishment of the framework under which the Bear River is now managed between the three states than the author of this report, Wallace N. Jibson.

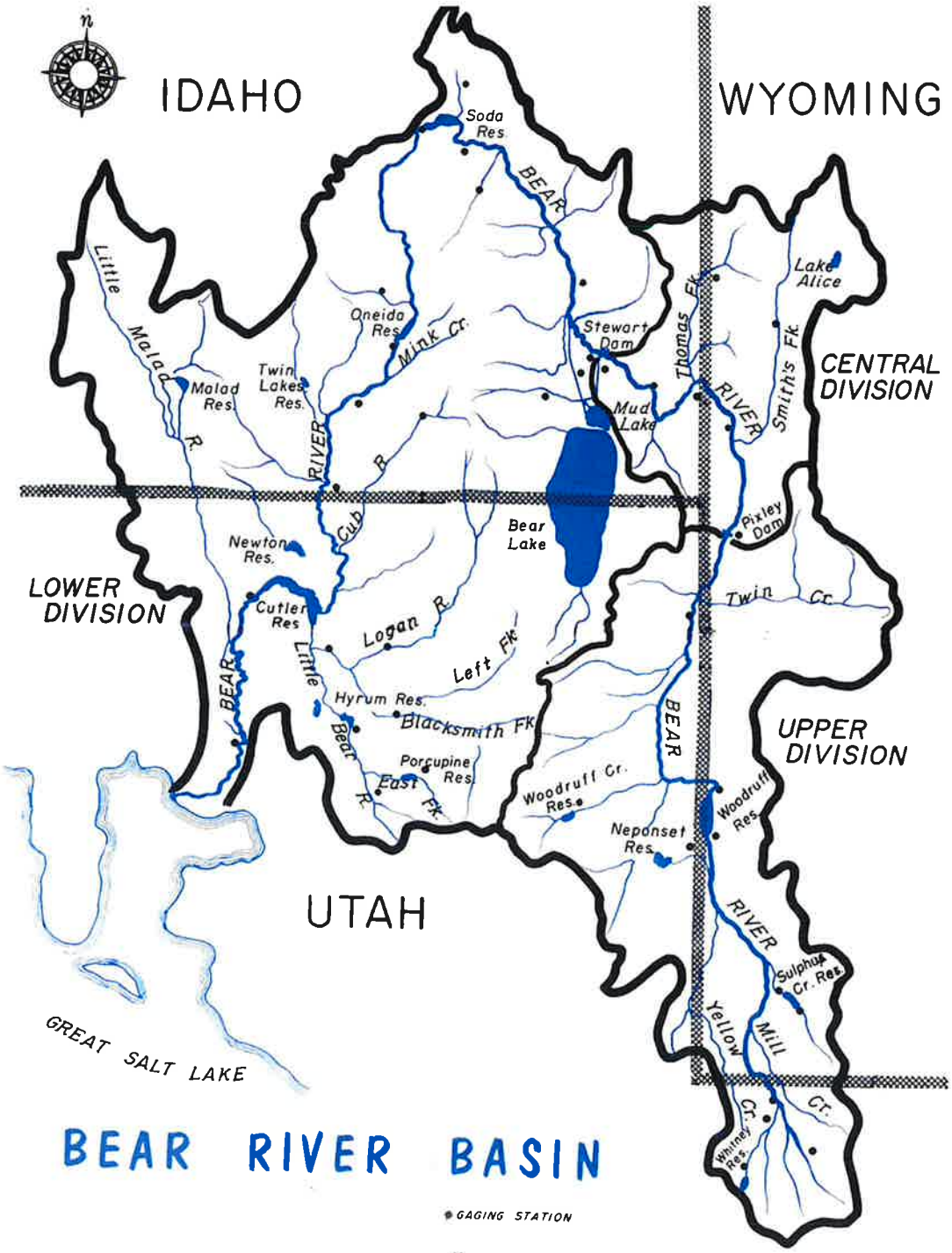
Wallace N. Jibson, or as most of us know him--"Wally", has served the water users and the three states with respect to Bear River regulation for more than four decades. The Commission felt that it would be most important to have Wally record for posterity his remembrances with respect to Compact negotiations and administration and to further provide additional background and insight into related issues.

The Commission appreciates Wally's longstanding service and further appreciates the history which he has written. This document does not constitute a formal history of the Bear River Compact Commission nor was it intended to do so. Instead, it represents an extended history of water use, water negotiations and water distribution along the river as seen and remembered by Wally.



Wallace N. Jibson

Jack A. Barnett
Engineer-Manager


IDAHO
WYOMING
UTAH
LOWER DIVISION
CENTRAL DIVISION
UPPER DIVISION
Soda Res.
BEAR
Little Malad R.
Malad Res.
Oneida Res.
Mink Cr.
Twin Lakes Res.
RIVER
Cub R.
Newton Res.
Cutler Res.
Logan R.
Left Fk.
Little Bear R.
Hyrum Res.
Blacksmith Fk.
Porcupine Res.
East Fk.
BEAR
Bear Lake
Stewart Dam
Mud Lake
Thomas Fk.
RIVER
Lake Alice
Smith's Fk.
Pixley Dam
Twin Cr.
BEAR
Woodruff Cr.
Res.
Neponset Res.
Woodruff Res.
RIVER
Sulphur Cr. Res.
Yellow
Mill
Cr.
Cr.
Whitney Res.
GREAT SALT LAKE
BEAR RIVER BASIN
GAGING STATION

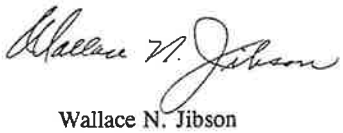
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Acknowledgments

The Bear River Commission recognized the need of an unofficial record of events and the personnel that were involved in the formulating and the administration of the Bear River Compact and the Amended Bear River Compact. This record spans some 45 years and involves a large number of Federal, State, private, and local water officials from the three states in addition to many grass-root water users who provided practical and valuable insight into compact negotiations. The Commission provided funding and other assistance in preparing the history, and members have been especially tolerant of several delays beyond the initial time frame for completion.

The author is indebted to members of the Commission and others who reviewed preliminary drafts and offered a number of suggestions, most of which have been incorporated into the history. I especially appreciate the valuable advice and direction of Jack A. Barnett, Bear River Commission Engineer-Manager, and his secretary, Heidi S. Marciniak, who has typed, corrected, and retyped draft after draft of the history. Special appreciation also to Jack for making available his word processor, printer, and other office equipment.

Alan Robertson, Idaho Department of Water Resources, and others who had served on the Technical Subcommittee of the negotiators for the Amended Compact have been very helpful in providing background information. Quantities included in the Amended Compact on storage allocations and depletion limitations have been derived from their hydrologic analysis.



Wallace N. Jibson

Table of Contents

Preface i
Map ii
Acknowledgments iii
Table of Contents iv

CHAPTER I - EARLY HISTORY OF SETTLEMENT & DEVELOPMENT OF THE BEAR RIVER 1
Naming of Bear River and Bear Lake 1
Irrigation Development and Early Studies 2
Utah Power and Light Company and Bear Lake 3

CHAPTER II - EVENTS AND NEGOTIATIONS LEADING TO APPROVAL OF THE ORIGINAL COMPACT 5
Water Rights, Dietrich Decree 5
Supreme Court Decisions 6
Water Right Controversy 6
Early Compact Negotiations 7
Storage Allocation Above Bear Lake 8
Thomas Fork Controversy 9
Bear Lake Irrigation Reserve 10
Natural Flow Allocation 11
Divertible Flow 14
Initiation of Water Emergency 14
Final Negotiation and 1958 Compact 15
Definitions and Explanation of Articles 17
General 17
Article II 17
Article V 18
Article IX 19
Article X 20
First Years of Operation 20

CHAPTER III - THE AMENDED BEAR RIVER COMPACT 23
Review of Provisions 23
Concerns and Need for Amendments 23
History of Negotiations, Amended Compact 24
Summary of Changes 26

CHAPTER IV - REFLECTIONS, CONCLUSIONS, AND A LOOK AHEAD . . 29

Illustrations
Bear Lake Elevation 12
Negotiators for 1958 Compact 21
Negotiators for 1980 Amended Compact 28

HISTORY
of the
BEAR RIVER COMPACT

(BY WALLACE N. JIBSON[1])

CHAPTER I
EARLY HISTORY OF SETTLEMENT & DEVELOPMENT OF THE BEAR RIVER

Naming of Bear River and Bear Lake

As rivers are measured, Bear River probably has only one distinction: that of being the largest stream in North America whose waters do not reach an ocean. But it is also a stream of geographic and political complexity as it enters the States of Wyoming, Utah, and Idaho a total of five times in its 500-mile circuitous course from Utah's Uinta Mountains to Utah's Great Salt Lake--only 90 miles from headwaters to mouth.

A brief historical background may be of interest beginning with the record of the first white trappers to enter and explore Bear River basin. First to come were fur trappers from Jacob Astor's British-owned American Fur Company in 1812 who gave the name of their leader, Miller, to the Bear River. Then in 1818 trappers of the French and British Northwest Fur Company entered the basin by way of Soda Springs, and Michel Bourdon attached today's name of Bear River because of the many bears encountered along the river. Bourdon traveled downstream and gave the name Little Bear River (also called Bourdon River) to what is now the Logan River. Part of the group moved upstream to Bear Lake Valley and gave the name Black Bear's Lake to the Lake.

Captain Weber and other Americans evidently "discovered" Bear Lake in 1824 and called it Weaver's Lake. The lake had other names--Little Lake, Sweet Water Lake, etc.

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[1]Wallace N. Jibson served as an employee of the U.S. Geological Survey (USGS) in Logan, Utah, as the lead investigator of Bear River water resources prior to the first Compact. He was serving as Chairman of the Negotiating Commission's Engineering Committee at the time of agreement (1955) on the Bear River Compact. Upon completion of the first Compact and while still employed by the USGS, in 1958 Jibson became the Assistant Secretary of the Bear River Commission. He was appointed as Federal Representative and Chairman of the Commission by President Gerald Ford on September 9, 1976, and was involved in negotiations leading to the Amended Compact. In 1979, Jibson retired from the USGS, became the first Engineer-Manager of the Bear River Compact Commission, and held this position until he retired in July of 1989.

But the British "Bear Lake,"--shortened from Black Bears Lake--prevailed. Smiths Fork was named for Jedediah Smith who named Cache Valley and Blacksmith Fork.[2] Hayden Fork of the Bear River and King's Peak, Utah's highest, were named for early investigators with the U.S. Geological Survey.

Irrigation Development and Early Studies

Mormon pioneers in their trek to Utah crossed the Bear River upstream from Evanston. Wes Myers, Bear River Commissioner from Wyoming, tells of his grandfather going on to Salt Lake, where he operated a small business for a year or two, but he returned to the Bear River and eventually started a ranching operation. Today, several miles of river basin are part of the Myers Ranch. Myers' irrigation canal, with an 1862 water right, claims the earliest water right priority on the Bear River and also in the State of Wyoming.

Somewhat surprising is the extent of irrigation development--and potential disputes--that had taken place before statehood, which was granted in 1890 to Idaho and Wyoming and in 1896 to Utah. G.K. Gilbert included a brief study of the Utah part of the basin in a report by Major J.W. Powell to the Congress in 1878. A couple statements of interest were to the effect that sufficient water was available in the river to irrigate about 90 square miles (57,600 acres) "under ditch" in the Woodruff-Randolph area; but if the necessary waters were appropriated, too little would remain for the use of lands bordering the river in Wyoming. These lands would have equal claim, and a "proper" distribution would allocate the supply to the best selection of land in the two Territories. Also, ". . . where the river next enters Utah, it has acquired so great a volume that it is impractical to make use of its entire amount."

In that 1878 report, Major Powell asked the Congress for laws governing priorities and beneficial use of water to be included in the homestead laws. But the Congress took no action, leaving policy to the States and Territories. Again in 1889 in the Eleventh Annual Report of the U.S. Geological Survey, Major Powell discussed the river system including plans to divert up to 2,000 cubic feet per second (cfs) of water where the river leaves Cache Valley. He then posed these questions: "In times of scarcity, who is to apportion this water? What protection do present users enjoy against the stronger and richer canal companies?" Further, ". . the project and notices of appropriation caused uneasiness among individuals and communities, especially in Idaho, for fear of a contest regarding water . . . ."

Major Powell was largely responsible for the establishment of the U.S. Geological Survey (USGS) in 1879 and became its second director in 1881. His efforts were in good

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[2]A.J. Simmonds, Utah State University (USU), and Dale Morgan, Opening of the West, by courtesy of La Mar Berrett, BYU.

part responsible for the enactment of the Irrigation Survey which was placed under the direction of the USGS. A few months later the science of stream gaging was developed, and Bear River near Collinston gaging station was established in July 1889 to be among the first gaging stations in the country. The Irrigation Survey was terminated in 1890, but not the stream gaging program that continues today under the USGS.

The feasibility of diverting water from Bear River into Bear Lake was discussed in Department of Agriculture Bulletin No. 70 in 1898. An estimated 400,000 acre-feet of usable storage could be provided by raising the "turnpike" or natural causeway in several places to provide for a 5-foot range in stage. Priorities across state lines and a common river administration were advocated in this report--possibly an implication of Federal administration in this interstate stream. A further quote, "A great many of the irrigators who are taking water from this stream and experiencing this unsatisfactory condition of affairs have called for a remedy, and have urged a division and adjudication of the waters of the entire stream." The writers also noted the difference in character of rights as between states and stated further, ". . . claims of appropriation could not be taken as a basis for the equitable division of its water." This was to be the subject of many discussions and disagreements some 50 years down the road.

George Swendsen, Utah Agricultural College, working for the Federal Reclamation Service, in 1902-1903 examined Bear Lake as a possible storage reservoir for irrigation and made note of two private projects then under development. Telluride Power Company was constructing a channel (Dingle Inlet Canal) from Bear River to Mud Lake. The Utah Sugar Company was constructing a channel from Mud Lake to the Bear River. Little progress was being made on either project.

We see from these early reports that irrigation was but a few years old when disputes arose on water rights. Territorial rights make up most of the rights in the basin. The United States was the sovereign and confirmed the law of appropriation which existed by local customs, laws, and court decisions in the three territories. This appropriation doctrine was confirmed later by the constitutions of the three States, and rights continued to be acquired.

Utah Power and Light Company[3] and Bear Lake

Utah Power and Light Company (UP&L) was organized in 1912, consolidating Telluride Power Company with many other predecessor companies. UP&L continued the Bear River to Bear Lake project started by Telluride and the Utah Sugar Company, and completed the project in 1918. In the period from about 1907 to 1916, the Dingle (Telluride) canal, diverting upstream from the present Rainbow Inlet Canal, intercepted a number of tributary sloughs. According to George Swendsen (1916) the canal diverted

[3]Utah Power and Light Company merged with PacifiCorp on January 9, 1989.

relatively significant amounts of water into slough areas (Mud Lake), raised the water surface, and overflowed into the Bear Lake natural outlet channel.

In December 1912, UP&L and Utah-Idaho Sugar Company entered into a perpetual agreement whereby the Sugar Company conveyed to UP&L all property in the vicinity of the present Cutler Dam including the diversion dam, canal headworks, existing power plant (Wheelon), transmission lines, and other properties and land. Also conveyed were all approved or pending water rights for power owned by the Sugar Company.

UP&L in return agreed to deliver a continuous flow of 900 cfs between May 1 and October 31 and 150 cfs between November 1 and the following April 30 each year for irrigation, municipal, and other purposes. To the extent that natural flow of the Bear River would not meet this demand, UP&L agreed to make up the difference with stored water. The UP&L also agreed to maintain, operate, and repair the dam, canals, and diverting works for which the Sugar Company in partial consideration would pay $4,000 annually.

Somewhat surprising is that the contract became effective in 1913, five years before completion of the Bear Lake project. But in this period, the Lake was converted into a storage reservoir by construction of inlet and outlet canals and a pumping plant (Lifton) near the center of the north shore in a natural causeway that was built up by wave action. The pumps lift water from the Lake into the outlet canal where it returns to Bear River at a point just west of Montpelier, Idaho. Five hydropower plants--Soda, Grace, Cove, Oneida, and Cutler--were built and completed by 1927. This is today, in 1990, the most important single development affecting Bear River water and placed the Bear Lake project in the middle of deliberations toward a long-negotiated Bear River Compact.

CHAPTER II
EVENTS AND NEGOTIATIONS LEADING TO APPROVAL OF THE ORIGINAL COMPACT

Water Rights, Dietrich Decree

Water rights in Bear River basin are evidenced under state law by court decrees, water applications, or water users' claims in pending suits for adjudication. Rights in Summit, Rich, and Cache Counties, Utah recently have been adjudicated in the courts. Earlier rights in Cache and Box Elder Counties were decreed in the "Kimball Decree" in 1922. Wyoming water rights are tabulated in a document entitled Tabulation of Adjudicated Water Rights of the State of Wyoming, Water Division Number Four. Updated versions are published at 3, 4, and 5-year intervals; also, unadjudicated rights in good standing are published.

Idaho water rights above Stewart Dam are decreed in a State District Court case entitled "Preston-Montpelier Irrigation Company v. Dingle Irrigation Co. et al.," and from Stewart Dam (see map on page ii) to the Utah State line in a Federal District Court decree known as the "Dietrich Decree" filed July 14, 1920. This decree granted a right to Utah Power and Light to divert 5,500 cfs of Bear River water into Bear Lake; thereafter to be released at UP&L's pleasure ". . . for the generation of electric power, and for such irrigation or other beneficial purposes, recognized by law, as the plaintiff (UP&L) may devote or dedicate said released stored water, by use, sale, rental, or otherwise" (quotation from the decree).

Noteworthy is that UP&L's storage right in Bear Lake is the only right to store water in the Lake. The "Irrigation Reserve" (discussed later) in the Compact restricts only the release of stored water under certain conditions. Noted also is that the Dietrich Decree specifies no restrictions relative to lake operating levels, maximum or minimum water surface elevations, or total quantities to be stored.

The first capacity table for usable contents of Bear Lake that I have seen was prepared by A.B. Purton, USGS, in 1942 from a 1922 UP&L contour map. Maximum usable capacity (1,421,000 acre-feet) is shown at a surface elevation of 5,923.65 feet (UP&L Datum) further described by Mr. Purton as "top of outlet works". This elevation has been considered as the upper limit of storage with existing facilities, though the concrete overflow wall or sill is somewhat higher according to a USGS benchmark on the sill. I have determined that the published elevation of 5,924 feet, when adjusted, shown on the 1912 USGS quadrangle map (before influence by man on Bear Lake surface elevations), coincides with the currently accepted upper limit of storage. The published map elevation, 5,924 feet, was rounded from 5,924.1 feet, based on an average of three elevation determinations in 1909 along the east side of the Lake. Datum corrections were made in mean sea level in 1912, 1929, and 1947 totalling a plus 2.25 feet, which, when adjusted to UP&L datum (-2.75 ft), equals 5,923.60 feet. Waterfront property around the lake

shoreline occasionally sustains damage at higher lake elevations from wave action and wind-caused ice encroachment. Owners tend to blame operation of the lake as a storage reservoir for this problem, but evidently it would have taken place under pristine conditions.

The accepted minimum elevation is the bottom of the pump draft tubes or lower limit of existing pumps and is at elevation 5,902.00 feet. This low point or zero usable content point was reached November 9, 1935. Reservoir range then is 21.65 feet, with usable capacity of 1,421,000 acre-feet.

The decreed right to store 5,500 cfs with two priority dates of 1911 and 1912 caused considerable controversy during interstate negotiations toward a compact. Bear River flow reaching Stewart Dam, the point of diversion to Bear Lake, has not in the 68-year period of record exceeded 5,000 cfs (maximum of record, 5,000 cfs in 1984). Rights above Stewart Dam with later dated priorities than 1911 and 1912 might have been subordinate to the Bear Lake storage right. However, only water users in Cache and Box Elder Counties, Utah, and in Idaho were joined as defendants in the Dietrich Decree. Water users in Wyoming and in Rich and Summit Counties in Utah were not parties to the suit and therefore not bound by the decree. Distribution in Idaho has been in accordance with the decree.

Supreme Court Decisions

The Supreme Court of the United States has decided a number of cases between states on an interstate stream where the appropriation doctrine has been adopted in both states. A case involved Wyoming v. Colorado on waters of the Laramie River (259 US.419) is one in which the court held that one state must recognize another state's priorities under the doctrine of appropriation. In a later case, Nebraska v. Wyoming, 325 U.S. 589 decided in 1945, the court referred back to the Laramie River case but concluded that strict adherence to the priority rule may not be possible; one state is not entitled to more than its equitable share of the benefits of an interstate stream.

Water Right Controversy

Each of the principles mentioned above as recognized by the court applies to the Bear Lake storage right, so precedent can be argued either way. In any event, the likelihood of a court injunction resulted in a relatively small amount of storage development in the basin above Bear Lake from 1920 until 1958. The issue was, Would upstream storage be subordinated by the Bear Lake storage right? Wyoming had granted rights for about a dozen small reservoirs that were constructed prior to the Compact with a combined capacity of about 2,000 acre-feet, and with later-dated priorities than the Bear Lake right. Utah users had constructed the Little Creek or Randolph Creek Reservoir, capacity 614 acre-feet, under a 1920 priority. The original Compact recognizes as existing in Idaho only one reservoir on Sheep Creek and three in Wood Canyon (Thomas Fork), with total capacity

of 324 acre-feet. Priority dates were not furnished at the time of a 1955 survey by the author.

Bear Lake storage right for years was a sore spot to users in the upper basin. But, on the other side of the coin, distribution of natural flow in the 1931-1935 drouth period created serious problems for Idaho users, and to a lesser extent for Rich County users in Utah. In each instance, Wyoming has the "hiority" if not the priority, and has the first chance to divert Bear River water from the Uinta watershed and to divert Smiths Fork water ahead of Idaho in the central part of the basin. The 1931-1935 period is the driest consecutive five years in the 65-year period, 1922-1986 (water supply to Bear Lake in the 5-year period, 1987-1991, was less than in 1931-1935). Irrigators dependent on Bear Lake for a partial or full supply of water fared better during this period because of improved runoff in 1932 and 1933 that replenished the dwindling holdover in Bear Lake. This holdover was totally depleted by November 1935.

Users above Bear Lake however, experiencing six below-average years (1930-1935) of runoff, had no storage as a backup and had moderate to severe deficiencies through the entire period. Aggravated by inequitable sharing between states, the situation prompted Idaho users to vow that relief must come through the courts or by an interstate compact.

Early Compact Negotiations

Friction among upper basin users over Bear Lake storage rights and lack of interstate control over irrigation season natural flow, together with the U.S. Bureau of Reclamation's concern for future Reclamation project development, brought about negotiations toward an interstate compact.

A series of informal meetings began in March 1943 in which the three State Engineers, with USGS and Reclamation personnel, laid the groundwork for future more formal negotiations. Ed Watson, Utah State Engineer, was chosen as Chairman of the group. E. J. Skeen, Assistant to the Attorney General in Utah, was chosen as Secretary. Idaho was represented by James Spofford (succeeded by Mark Kulp), State Reclamation Engineer; Fred Cooper, Grace; and E. J. Baird, Soda Springs. Wyoming was represented by L.C. Bishop, State Engineer; David Miller, Rock Springs; and Emil Gradert, Robertson. Utah was represented by Ed Watson, State Engineer; and E. J. Skeen. UP&L was represented by F. Gerald Irvine, Attorney, and E. G. Thorum, Hydrologist.

First approved was a rather comprehensive streamflow data collection program which included all tributary flow records in addition to expanding existing gaging sites on the main stem. Initially, this was a joint effort of USGS and Reclamation, with financial support from the states and local users. Then a project office in Logan was established by the USGS with W.V. (Vaughn) Iorns in charge, who not only directed the streamflow program but was given permission by the USGS to assist the States in an engineering and advisory capacity.

The Congress, as required by the Constitution, granted consent July 24, 1946, to the States to negotiate and enter into a compact (HR 4870, 12-3-4S), and E. O. Larson, Regional Director of Reclamation, was appointed as the Federal Representative by President Truman on August 6, 1946. The authorizing legislation gave considerable latitude to the States to use any basis they chose in negotiations.

Early negotiations toward administering the entire river on a priority basis without regard to state lines met with much resistance which threatened to halt further negotiations. Also, water in the system essentially was fully appropriated which meant that on a priority basis, storage allowance above Bear Lake was out of the question. Further, strict priority distribution between Wyoming and Idaho in the Central Division would create such serious deficiencies in supply for 10,000 acres in the Smiths Fork drainage that in many years total crop failures would result. Thus, recognition by the Supreme Court (Nebraska v. Wyoming, 325 U.S. 589, 1945) (page 8) that strict adherence to the priority rule may not be feasible became very pertinent to continuing efforts to negotiate a compact.

Storage Allocation Above Bear Lake

Two concepts then became evident fairly early in negotiations. First, an annual storage allocation to users above Stewart Dam would be granted that would not be junior to the Bear Lake storage rights. Second, division of natural flow water between Wyoming and Utah in the Upper Division and between Wyoming and Idaho in the Central Division would be based on respective irrigated acreages.

Neither concept was readily accepted by UP&L or Idaho negotiators. We should keep in mind that Bear River hydropower was then the lifeblood of UP&L, whose five hydropower plants below Bear Lake (115,000 kw) were generating an estimated 75 percent of its total power production as compared to less than 5 percent in 1990. Increased usage or depletion above Bear Lake was a matter of serious concern to UP&L representatives on the Negotiating Committee. Large quantities of water released from Bear Lake solely for power production in the 1924-1927 period lowered the Lake about 14 feet to approximately 5,909 elevation and set the stage for the Lake being depleted to zero usable content by November 1935.

Bear Lake had become the lifeblood also to thousands of irrigated acres in Idaho and lower Utah. Frequently the question is asked, "Why did the initial Compact fail to divide direct flow and future developable water between States in the Lower Division?" The answer primarily is that even though power production may have had equal or first priority over irrigation in the first years of Bear Lake operation, stored water from the Lake has been adequate each year (except 1934) to fill supplemental irrigation requirements for more than 150,000 acres in Idaho and Utah. Essentially, because of Bear Lake, there was no controversy between Idaho and Utah users, and the negotiators had all the controversy they needed in the upper basin. The Compact did, however, recognize priorities of Utah users against diversions with junior priorities in Idaho.

About eight unofficial meetings of negotiators had been held between March 5, 1943, and June 23, 1948, when the first official meeting was held at Jackson with E. O. Larson conducting as Federal Representative and Chairman. A second meeting at Preston was held December 13 and 14, 1948. The Negotiating Committee included Mark Kulp, Fred Cooper, and William Hunter for Idaho; Clark Bishop, David Miller, and Reed Dayton for Wyoming; and Ed Watson, L. B. Johnson, and Orson Christensen for Utah. E. J. Skeen continued as Secretary to the Commission. Analytical work, including the writing of a tentative compact, had been done by Vaughn Iorns, USGS, with some assistance from Lesher Wing, Federal Power Commission. E. K. Thomas, Reclamation, analyzed future storage development potential for the negotiators. Engineering and legal committees were appointed.

Two years went by before the next meeting of the Commission because of critical attacks on a compact draft presented at Preston in which a storage allocation above Bear Lake was not included. This was a low point in negotiations, with serious doubts that agreement would ever be reached.

I attended the Preston meeting as an understudy of Mr. Iorns, and after hearing him assailed from all sides, considered asking for a transfer--preferably to Kansas. The tempo picked up after 1950 with two or three meetings each year, until final approval of a compact by the States on February 4, 1955. Suggested allocations for upstream storage ranged from "zero," proposed by Idaho, to 150,000 acre-feet annually requested by Wyoming. Many studies, many proposals and counter-proposals, and considerable "horse-trading" took place in the 5-year period before settling on an allocation of 36,500 annual acre-feet, including 1,000 acre-feet to be stored on Thomas Fork for use in Idaho. Actually, the allocation had more basis than just negotiation. Engineering Committee studies analyzed supplemental needs in each state section based on acceptable patterns of diversion, consumptive use, headgate requirements, effects of compact regulation on future needs, and other pertinent analysis. The Committee also investigated existing reservoir sites and projected water supplies and shortages at each site.

Thomas Fork Controversy

The Thomas Fork allocation became the subject of controversy and held up approval of the Compact by one year in the Congress. An Engineering Committee study in May 1953 looked at storage requirements and storable supplies above Bear Lake in which Thomas Fork irrigated land (Idaho) showed a supplemental requirement of 9,000 acre-feet. A reservoir site in Wyoming, with available supply could take care of most of this need.

Thomas Fork was not discussed until the second meeting following the study, December 2, 1954, when George D. Clyde, Utah commissioner, questioned the appropriateness of considering this Idaho tributary for a storage allocation, the contention being that it was an Idaho problem and should not be part of an interstate compact. Even so, Idaho commissioner Fred Cooper suggested an allocation of 1,000 acre-feet. To me this

was a token amount that would accomplish nothing and would create a situation among Thomas Fork users like dividing one bone among ten dogs. According to Mark Kulp, Idaho Reclamation Engineer, the allocation was based on his recommendation several years earlier in connection with WPA (Works Progress Administration) funding for storage development.[4]

Representatives from Thomas Fork were not present at the December meeting, nor did they attend until two meetings later on January 12, 1955, when the Compact was in the final stages of approval. They protested the allocation, citing our study showing the need for 9,000 acre-feet. During a recess, I talked with Mr. Linford and Mr. Walter, representing Thomas Fork users, and suggested that they consider withdrawing the inadequate allocation and negotiate outside the Compact with UP&L and Idaho officials. Their answer: "No. We will accept the 1,000 acre-feet as a 'foot in the door' situation and negotiate later."

Much to our surprise, Linford and Walter took their grievance to Congresswoman Gracie Pfost and convinced her that negotiating meetings had not been publicized, that UP&L was depriving users of water rights, and that Thomas Fork had been ignored and then suddenly Thomas Fork became part of the Compact. These claims were false, but Congresswoman Pfost delayed action in the house from 1957 to 1958 when approval was given. Late filing in the Wyoming Legislature delayed action from 1955 until 1957, so three years passed from Commission signing in 1955 until Presidential approval on March 17, 1958.

Bear Lake Irrigation Reserve

While on the subject of storage allocation, another important part of the Compact, the irrigation reserve, should be explained, especially in view of recent arguments and misunderstanding on the part of some Utah users in the lower basin.

One of the difficulties in formulating an interstate compact on Bear River was the question of allowing additional development of irrigation reservoirs above Bear Lake without the decreasing water supply available to Bear Lake adversely affecting users in Idaho and Utah who are dependent on the Lake for part or all of their irrigation supply. The additional storage rights above Bear Lake to be of any value could not be subject to the earlier priority of UP&L rights to divert water to the Lake; therefore, additional storage development would decrease the flow available for storage in Bear Lake. Irrigators in Idaho and Utah felt that they should be assured of at least the same supply that had been available to them in past years and particularly in the 5-year critical period (1931-1935) when Bear Lake was pumped to its lowest level.

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[4]Bear River Commission Minutes of Meeting, Phoenix, Arizona, November 7, 1957.

Obviously, the only way this assurance could be given would be to reduce the use of Bear Lake water solely for the generation of power over the amount used in prior years. This reduction in the use of stored water for power production could be accomplished by selecting a water level in Bear Lake below which water could not be released solely for the generation of power. This level would be selected at such elevation that if basin runoff were to occur again in precisely the same amounts as occurred in the past, the lower users could be assured a supply equal to that of the 5-year critical period, even though 36,500 acre-feet of additional water would be stored each year above Bear Lake.

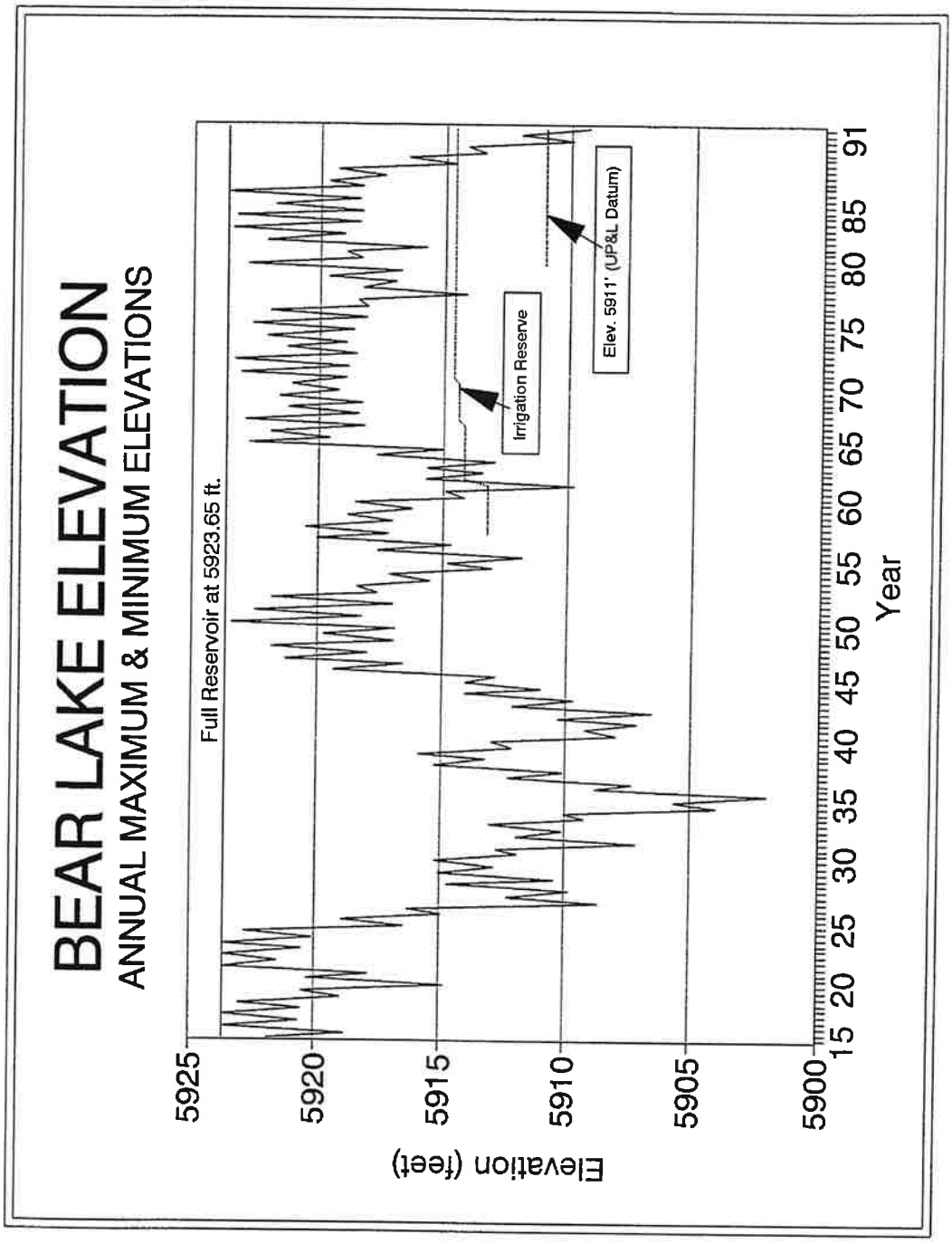
Simulated lake operation studies indicated that, with some allowance for return flow from the new storage, an elevation of 5,914.70 feet (UP&L datum) would accomplish this purpose, and water below such elevation would constitute an "irrigation reserve." Further, it was concluded that inasmuch as the new storage allowed above Bear Lake would likely take several years to develop, a number of irrigation reserve elevations should be selected corresponding to 5,000 acre-feet increments of storage as it was developed. This resulted in an elevation of 5,912.91 feet being selected as an irrigation reserve level which would be applicable until the first 5,000 acre-feet of storage was developed. Thereafter, the elevation would be raised in accordance with the table given in Article V of the Compact.

By October 1970, 30,883 acre-feet of new storage had been developed above Bear Lake, so the irrigation reserve elevation was raised to 5,914.61 feet (active storage: 794,000 acre-feet) corresponding to the storage block of 30,000 acre-feet. It remains at this level in 1990. The Lake was below the reserve elevation for periods in the sixties, winter period in 1977-1978, and since August 7, 1989. The following hydrograph allows the reader to better understand the fluctuations of Bear Lake levels.

The provision prohibits release of Bear Lake stored water, except in emergency, for the sole purpose of generating power when the Lake is below the irrigation reserve elevation. Further, water from this reserve may be used for hydropower as it is conveyed down the river channel for diversion to irrigation. The provision does modify the basic storage right in the Dietrich Decree as it pertains to the release and use of stored water. The right of UP&L to divert Bear River water to storage in Bear Lake remains as decreed. The Compact does not grant to irrigators the right to store water in the Lake because of the irrigation reserve.

Natural Flow Allocation

Returning to the second major issue to be agreed upon--that of an equitable division of natural flow above Bear Lake--we noted earlier that irrigated acreage as a basis for allocation became the least controversial alternative discussed. Even so, Idaho insisted through many sessions of deliberation that interstate priorities should be given more weight. Some consideration of priorities in this instance was tied to the initiating criteria of when to begin interstate regulation (flow at Border and divertible flow) that will be discussed later. Priority between Wyoming and Utah was not an issue.


BEAR LAKE ELEVATION
ANNUAL MAXIMUM & MINIMUM ELEVATIONS
Full Reservoir at 5923.65 ft.
Irrigation Reserve
Elev. 5911' (UP&L Datum)
Elevation (feet)
5925
5920
5915
5910
5905
5900
15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 91
Year

Negotiators reached early agreement on several other concepts. For instance, under a priority system seldom would tributaries, except Smiths Fork, be regulated for benefit of main stem users. So Smiths Fork was the only tributary included in allocations, and other tributary streamflow records were discontinued after 1945. Also, a combination of irrigated acreage and relative priorities would be controlling factors in allocation of natural flow. Interstate priorities however became less important as negotiations continued.

Again based on priorities, the basin could be divided into three divisions in which an upper division seldom if ever would be regulated for the benefit of a downstream division. The Upper Division extends from the headwaters down to and including diversions at Pixley Dam, about 11 miles upstream from Cokeville. The Central Division comprises that portion of the basin from Pixley Dam to and including Stewart Dam, the point of diversion to Bear Lake. The Lower Division includes the basin below Stewart Dam including Bear Lake and its peripheral tributaries.

To proceed and incorporate these concepts, the States furnished tabulations of water rights and acreages. Reclamation and USGS personnel determined irrigated acreage based on photography taken in about 1938 in which all irrigated land was delineated and planimetered. These were used to check and cross-reference acreages and water rights furnished by the States. Reclamation personnel had done extensive field checking, and the measured acreages were quite accurate.

Emphasis on direct flow allocation was directed principally to Wyoming and Idaho Sections in the Central Division in analytical studies and negotiations. This had been the area of controversy and greatest need for interstate regulation. An extremely dry year, 1954, came along late in negotiations and shifted the emphasis somewhat to the Upper Division where Wyoming again had the "hiority" over Utah. Negotiators agreed that interstate allocation should be provided for in both divisions.

The Upper Division includes four state sections: Upper Utah, a small irrigated area in Summit County; Upper Wyoming, comprising about half of the Division irrigated acreage above and below Evanston; Lower Utah, main stem lands in Rich County accounting for about 40 percent of the Upper Division; and Lower Wyoming, main stem lands from the state line below Randolph to Pixley Dam upstream from Cokeville that includes about 10 percent of the Division.

Acreage within each state, as planimetered on Reclamation land use maps, was the starting point in arriving at compact percentage allocations. Hilliard East Fork, Lannon, Lone Mountain, and Hilliard West Side canals divert in Upper Utah for irrigation in Wyoming. Wyoming insisted on jurisdiction over these canals, so 5,653 acres in these canals adjudicated by Utah was added to Upper Wyoming acreage before computing the Compact allocation of 49.3 percent. Acreage in Utah under Francis Lee and Bear River Canals (2,151 acres) was adjudicated in Wyoming and included in Wyoming acreage and allocation. Likewise, Lower Wyoming measured acreage was reduced by 1,884 acres in this section (B.Q. West Side Canal) adjudicated and allocated in Lower Utah. Based on

irrigated acreage as adjusted, Upper Utah received 0.6 percent of divertible flow (see next paragraph); Upper Wyoming, 49.3 percent; Lower Utah, 40.5 percent; and Lower Wyoming, 9.6 percent.

Similar thinking prevailed in the Central Division. Acreage in the Idaho Section of the Central Division under the Cook Canal (2,476 acres) was adjudicated by Wyoming and included in the Wyoming acreage and allocation. Compact acreage for the Central Division then became: Wyoming 17,284 acres (43 percent) and Idaho 23,278 acres (57 percent).

Divertible Flow

"Divertible flow" in the Upper and Central Divisions is defined as the total water being diverted at any given time, plus the flow in cfs leaving the division. In the Upper Division, this would include flow passing Pixley Dam and in the Central Division, flow passing Stewart Dam. Criticism still arises occasionally that the Rainbow Inlet Canal, diverting water at Stewart Dam into Bear Lake (Mud Lake) is counted as a diversion when it irrigates no acreage in the Central Division. For Compact purposes, the Rainbow Canal diversion is in the same category as water leaving the division past Stewart Dam. Ironically, the criticism has come from Wyoming users whose allocation includes 43 percent of the discharge in the Rainbow Canal by definition of divertible flow in the Central Division. Nevertheless, this is a natural reaction by Wyoming users who, while being regulated, observe "surplus" water in the Rainbow Canal rather than being diverted to Idaho land in the Central Division. The primary reason for what may seem to be an inequity is that Idaho meadow rights are cut off July 1 each year. Other diversions being limited to adjudicated rights cannot utilize this meadow water which remains in the system and reaches the Rainbow Canal. Total Idaho acreage after July 1 is receiving far less water per acre than Wyoming acreage except in dry years.

Assuming the Rainbow Inlet Canal did not exist, obviously the divertible flow in the Central Division would not change, and Wyoming Section would get the same allocation as today. Idaho diversions would still be administered under state law, and unused water would be leaving the division. Diversion into the Rainbow Inlet Canal during the irrigation season is highly significant to Idaho users below Bear Lake because, by the Dietrich Decree, this flow plus flow below Stewart Dam is the first measure of natural flow earmarked for the Last Chance Canal Company in accordance with its priority.

Initiation of Water Emergency

When the divertible flow in the Upper Division, as defined on page 14, is less than 1,250 cfs, a water emergency is in effect during the irrigation season. Such an emergency in the Central Division is in effect when either the divertible flow is less than 870 cfs or the flow passing the Bear River at Border, Wyoming gaging station is less than 350 cfs. Water

emergencies terminate on September 30 (Amended Compact) each year unless the date is changed by the Commission.

The flow rates that initiate water emergencies in the Upper and Central Divisions were agreed upon after considerable discussion in a number of meetings. Analysis of historical records showed that small changes in these initiating flow rates did not significantly change the periods of regulation in either division. To arrive at initiating flow rates (next paragraph), which related to quantities available to fill basic rights in each of the States, required a look at rates of allocation under state law. Wyoming basic rights are allocated at the rate of 1 cfs for each 70 acres, with a surplus right of double this amount when water is available; Summit and Rich Counties in Utah were not yet adjudicated, but claims were based on canal capacity with a maximum seasonal diversion of 3.0 acre-feet per acre. (In dry years, no one is able to divert 3.0 acre-feet per acre, so the wide range in diversion rates has caused some controversy within the state.) Adjudication in Idaho varied according to "meadow" rights or "agricultural" rights; so, the Commission used a basis of 1 cfs for 33 acres during the flood water period and 1 cfs for 50 acres during the balance of the season.

The initiating rate in the Upper Division of 1,250 cfs of divertible flow is the approximate total of rights in the division on a basis of 1 cfs for each 70 acres. In the Central Division, the divertible flow criterion of 870 cfs was a negotiated takeoff from 810 cfs which are total rights in the division based on 1 cfs for 50 acres. The flow passing Border of 350 cfs initially was 400 cfs, represented an approximate flow when there is sufficient supply in the two states to divert 1 cfs for each 50 acres. The final compact amounts of 350 cfs at Border or divertible flow of 870 cfs in average years occur within a few days of each other. In dry years, divertible flow generally falls below 870 cfs first and initiates the emergency.

Final Negotiation and 1958 Compact

Intensive negotiations in a series of seven meetings, December 2, 1954, to February 4, 1955, resulted in much compromise, threatened walkouts, and apparent insurmountable differences. But, the old negotiators with important newcomers, George D. Clyde assisted by Jay R. Bingham of Utah, hammered out their differences and on February 4, 1955, signed a Bear River Compact. E. J. Skeen, signing as Secretary to the Commission, played an important role in negotiations not only as secretary but in taking the lead in drafting the Compact and in including necessary provisions to get approval of the Congress.

As we are now operating under an Amended Bear River Compact with different signers, it is desirable for the record to list those signers of the initial Compact. They were, for Idaho: Mark R. Kulp, Fred M. Cooper, and Melvin Lauridsen; for Utah: George D. Clyde, Lorenzo Weidman, A. V. Smoot, Lawrence B. Johnson, Alonzo Hopkin, E. M. Van Orden and Orson A. Christensen; and for Wyoming: L. C. Bishop, H. T. Person, Howard B. Black, Emil C. Gradert, and S. Reed Dayton. Signing for the United States was E. O.

Larson, and as Secretary, E. J. Skeen. President Dwight D. Eisenhower signed approving legislation on March 17, 1958.

Two additional meetings of the Negotiating Committee were held following the signing of the Compact by the states on February 4, 1955: one at Phoenix, Arizona, on November 7, 1957; and the second at Salt Lake City on February 20, 1958. During these meetings, in addition to pursuing Congressional approval of the Compact, contacts were made with USGS authorities in Washington to get approval for the author to assist in the administration of the Compact. This approval was granted with some limitations; namely, as a Federal employee, I was not to be involved in actual regulation of diversions. Preservation of the authority of the Commission and the States was to be of first importance.

The first official meeting of the newly organized Bear River Commission was held April 5, 1958. Nominees for Federal Representative and Chairman were made. Budget and Operations Committees were appointed. Bylaws were approved in the second meeting on April 26, 1958, and Jay R. Bingham, who had assisted George D. Clyde in negotiations, was appointed Secretary of the Commission. In compliance with U.S. Geological Survey limitations and the desire of the Commission with respect to Federal employees, Wallace N. Jibson was first appointed Assistant Secretary and, after retirement from Federal service, as Engineer-Manager. Utah commissioners were Jay R. Bingham, Lawrence B. Johnson, and A. V. Smoot. Wyoming commissioners were Earl Lloyd, S. Reed Dayton, and J. W. Myers. Idaho commissioners were George N. Carter, Fred M. Cooper, and Melvin Lauridsen. E. O. Larson was appointed as Federal Representative by President Eisenhower on June 16, 1958, and by Article III, Larson assumed the duties of Chairman. E. J. Skeen was appointed Legal Advisor in Regular Meeting on November 28, 1960.

Direct flow allocation in the Compact has achieved in general an equitable division of water between the States and has produced no particular surprises from our early projections. Comparable diversion rates, published in biennial reports, between Wyoming and Idaho in the Central Division, show effectiveness of interstate regulation in dry years by the small spread in diversion rate per acre. In average and better years, Wyoming has diverted on the average 1.5 acre-feet per acre more than Idaho, but in dry years, only 0.3 acre-feet per acre more. Gravelly soils in Smiths Fork require a higher rate of diversion but also yield higher return flows.

One direct-flow provision in the Compact that has been more significant than probably anticipated is Article IV, A, e, regarding diversions in the Upper Division. It permits unused allocation in a state section to be available first for use in the other section of that state. This provision was a latecomer in negotiations being proposed just a few weeks before final approval of the Compact and adopted with only cursory studies of its effect on interstate regulation.

Common practice has been to shut down irrigation in Lower Wyoming (B.Q. and Pixley Dams) in the first few days in July, with a flush of water leaving the division as

water is released from behind B.Q. and Pixley Dams. This practice has not changed appreciably since adoption of the Compact. The effect on interstate allocations is to allow the 9.6 percent allocated to Lower Wyoming to be available initially for use in Upper Wyoming. In most years, the additional allocation comes at a time when Upper Wyoming's diversion rate starts to exceed the basic allocation of 49.3 percent--not because of an increased diversion rate, but because of rapid decline in supply and divertible flow. The extra allocation quite often becomes the difference between compliance and non-compliance with allocations for the next two or three weeks until Utah shuts down irrigation for haying operation. We may not argue the fairness of this provision, but doubt that anyone expected it to be a factor in most years.

The transfer of unused allocation and the very rapid decline in supply between the time that the divertible flow reaches 1,250 cfs and the time lower sections in the Upper Division shut down irrigation for haying operation, may lead some to question the value of direct-flow allocation in the Upper Division.

Comparison of river operation in 1990 and prior to the Compact leaves little question in my mind about the value of interstate allocation. For instance, few canals in Upper Wyoming were equipped with adequate headgates to effectively regulate the diversion, flow monitoring was not being done, actual regulation in accordance with rights appeared to be minimal, and very few canals were equipped with measuring flumes or weirs. In 1990, all diversions can be and are being regulated in accordance with adjudicated rights. Thanks to Wes Myers and others in his company who set an example, many diversions are now equipped with Parshall flumes and all major diversions are equipped with continuous recorders. Regulation in accordance with adjudication--without direction of the Commission--for the most part has kept this section within Compact allocation, even though allocation by practical necessity often has been an "after the fact" determination.

Definitions and Explanation of Articles

General

Occasionally, questions arise on individual articles in the Compact as to why certain definitions or recognition of rights were included and others excluded. The following discussion of articles related to such questions may be beneficial.

Article II

Article II lists definitions of certain terms used in the Compact. Paragraphs 18-24 define those tributaries of Bear River and Smiths Fork, diversions from which are part of the divertible flow in the Central Division. Canals defined in paragraphs 25-28 (Hilliard canals) are Utah diversions in Summit County that irrigate only acreage in Wyoming. These canals have late-dated Utah rights, and some have suggested that points of diversion

were purposely located in Utah to avoid Wyoming regulation. Wyoming State Engineer, L. C. Bishop, made it known early in negotiations that he would not agree to a compact that did not give him administrative supervision over these canals. They are therefore included in Upper Wyoming Section diversions and allocations.

Francis Lee Canal, paragraph 29, is one of two canals (also Bear River Canal) diverting in Wyoming below Woodruff Narrows Reservoir and serving some acreage in Wyoming, but most in Utah. Utah acreage under the Francis Lee Canal had not been included in Wyoming adjudication, but was recognized in the Compact. (See also Article X and "Tabulation of Wyoming Rights" with Report 13, December 15, 1959, in Commission files.)

The Chapman Canal and Neponset Reservoir, paragraphs 30 and 31, were also included in definitions because of a question in Wyoming adjudication (see discussion of Article IX--Article X, Amended Compact). Article IV again refers to interstate canals in the Upper Division as defined, and specifies the state section to which their allocations of direct flow are included. Also included in this article is the right to transfer unused allocation as discussed earlier in this history. Interstate canals are supplied from the state section allocation in which the point of diversion is located, with the exception of the Hilliard canals diverting in Utah for use in Wyoming as described earlier.

Article V

Article V (Article VI, Amended Compact) recognizes existing pre-compact storage rights in constructed reservoirs above Stewart Dam. This recognition is confined to aggregate acre-feet by states.

Legal and Engineering Committees in August 1951 requested that the USGS conduct a field survey of existing reservoirs in the basin. This survey would then be updated to the date of Compact approval so that existing reservoirs could be confirmed in the Compact and segregated from new upstream storage that would be allocated. Each state would furnish a listing by name, source, location, priority, and adjudicated capacity. Non-adjudicated reservoirs, if located, were to be included in the survey.

The author, assisted by Budd Robison of the USGS, conducted a field reconnaissance in September and October of 1951 and summarized findings in Report 22, Existing Irrigation Reservoirs in Bear River Basin, dated November 28, 1951.

Considerable discussion in the negotiating group ranged from listing each existing reservoir in the Compact to including the aggregate capacity as a part of the new allocation. Significant is the approved final wording, "Existing storage rights in reservoirs heretofore constructed . . ." (initial Compact). Existing reservoirs without adjudication rights were not included in the totals, but neither are they chargeable to new storage allocation. In general, if the measured capacity in a reservoir was less than adjudicated, the smaller quantity was

used in the total. Likewise, if measured capacity was greater than adjudicated, again the smaller quantity was used. The only tabulation and record of surveys of these reservoirs is in the above-mentioned Report 22 (Commission files).

Article IX

Article IX (Article X, Amended Compact) recognizes and confirms certain rights on which questions were raised during negotiations. Adjudication was pending on Summit County water user claims but on the Hilliard East Fork Canal, there was no record of a claim being filed. The Wyoming State Engineer furnished the irrigated acreage and date of priority. Recognized primary right in the Hilliard East Fork Canal of 28.00 cfs was based on the highest recorded daily flow, 1944-1950, and in general agreed with Utah user claims based on canal capacity. (Flow rate exceeded 28 cfs in 1952, an extremely wet year.)

Amount of irrigated acreage in Utah under the Chapman Canal varied widely from 14,276 acres adjudicated by Wyoming to 7,889 acres finally approved. Consistency in what constitutes irrigated land for Compact allocation had to be maintained in the three states. A general rule was to include willow land and grass/brush land under canals where water was being applied. Another was to include lands that had been irrigated but were temporarily out of production, though not permanently abandoned. Extensive field checking with state (Utah) hydrographic survey maps, together with aerial photos, was carried out by Vaughn Iorns in 1951 with representatives of Deseret Land and Livestock Company (DL&L). Wyoming adjudication rate of 1 cfs for 70 acres was applied to Utah and Wyoming lands to arrive at the primary rights as recognized.

Under state law, Wyoming could not issue a permit for Neponset Reservoir, an out-of-state reservoir served by Chapman Canal. The state did, however, issue an earlier certified letter stating that DL&L had complied with all requirements for adjudication and such letter could be used for evidence in future interstate negotiations.

Somewhat puzzling in view of this evidence was a rather heated discussion between attorney Burton for DL&L and L. C. Bishop, Wyoming State Engineer, on the Neponset right. It was, however, confirmed as a component part of the irrigation right for Utah lands. The author made a survey of the Neponset Reservoir spillway which apparently had washed out and was temporarily replaced with sand bags. This survey, referenced to Bureau of Reclamation bench marks, showed a sand bag capacity of 6,900 acre-feet, which was recognized and confirmed in the Compact. The sandbag spillway has been replaced with concrete, but no further survey was made by the Commission.

The maximum flow limitation of 134 cfs in the Chapman Canal was based on the maximum flow which had been measured up to the date of the Compact. The object of course was to prevent enlargement of the right, but the footnote wording, "Under the right as herein confirmed . . ." does not prevent enlargement of the canal capacity under a new

right. Was this an oversight, or did the negotiators assume that a late-dated priority would be of little practical value either for storage in an enlarged reservoir or for supplemental direct flow application?

Article X

The Francis Lee Canal right, a diversion in Wyoming for irrigation in Wyoming and Utah, was recognized and confirmed in Article X to correct an apparent oversight in Wyoming adjudication. The adjudication recognizes the right to 154 acres in Wyoming but, though recognizing use in Utah, did not adjudicate for 519 acres located in Utah.

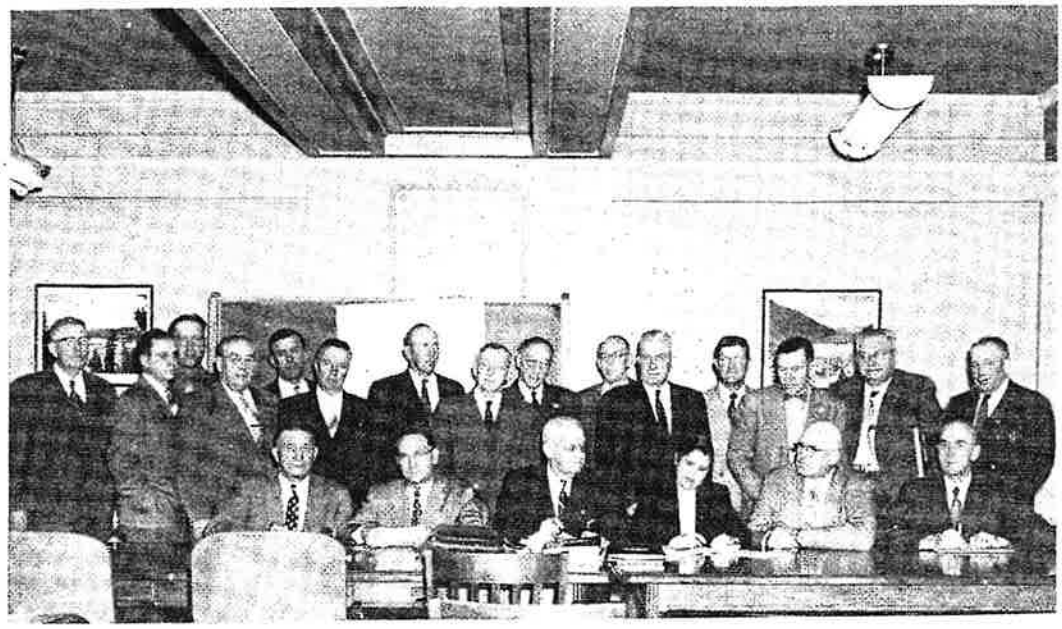
First Years of Operation

Initiating the Compact in a dry cycle had advantages and disadvantages. In the four-year period 1958-1961, supplies ranged from 80 percent of average in 1958 down to 43 percent (Smiths Fork) in 1961. Interstate regulation was badly needed and achieved an equitable division of natural flow during these first years of operation, but also in 1961 (the driest since 1934 and 1940) we saw the futility of regulating in the Upper Division after about mid June. With divertible flow decreasing rapidly in the 400-600 cfs range, most acreage in Lower Utah (Rich County) receives little if any water from flat-gradient canals when discharging less than half capacity under a falling head. Thus, little was gained from interstate regulation during these periods.

A major difficulty in these first efforts to comply with interstate allocation during these dry years was resistance to regulation by users in the Central Division. Wyoming users had very little in-state regulation prior to the Compact, but now they were faced with very severe regulation for the benefit of another state. The Operations Committee of the Commission met with state and local officials in 1959 and cleared the air on several controversial issues.

The Cokeville commissioner resigned in the middle of the 1960 irrigation season and gave no assistance in training a new commissioner. Fortunately, Stanley Nate accepted the unpopular position and was trained in stream gaging by USGS personnel. Stan did an excellent job for several years as commissioner.

To complicate matters, a suit was filed in District Court by a user of Pine Creek water against the Wyoming State Engineer. The suit claimed that Pine Creek was not a tributary to Smiths Fork; therefore, users could not be regulated in order of priority with other Smiths Fork and tributary users. Sections of Pine Creek had been dry at times because of seasonal transbasin diversions by the plaintiff, other diversions, and a small storage reservoir on Pine Creek. The assertion was completely without merit in my opinion but because of a very inept defense the court ruled for the plaintiff.



Negotiating Commission at Signing of Bear River Compact, February 4, 1955

Standing, left to right:
E.M. Van Orden, Wallace N. Jibson, Mr. Linford, Warren Sirrine, Mr. Walter, C.R. Nate, Melvin Lauridsen, Mark R. Kulp, Emil C. Gradert, E.J. Skeen, Howard B. Black, S. Reed Dayton, H.T. Person, J. Lorenzo Weidman, A.V. Smoot.

Seated at table, left to right:
Fred M. Cooper, E.O. Larson, L.C. Bishop, Mrs. Crowther, George D. Clyde, Orsen A. Christensen

The Bear River Commission was not a party to this suit, and provisions of the Compact remain intact with diversions from Pine Creek still included in Wyoming diversions. However, the ruling not only demoralized local water officials, but drew threats from other Smiths Fork users that they would fight future regulation of earlier-dated priorities than those on Pine Creek.

Most of the storage water allocated to Wyoming and Upper Utah was developed soon after the Compact became law in 1958. Utah allocated most of her share to Woodruff Narrows Reservoir, completed in 1961, and Woodruff Creek Reservoir, completed a few years later. Wyoming's Sulphur Creek Reservoir was under construction when the Compact was approved. Woodruff Narrows Reservoir's compact allocation included 3,000 (now 3,250) acre-feet from Wyoming. Whitney Reservoir (4,200 acre-feet), a Wyoming allocation, was developed in 1966. A Wyoming allocation to Smiths Fork of 4,100 acre-feet still has not been developed. Smaller reservoir allocations in each state are shown in biennial reports.

An improved water supply following the drouth year of 1961, together with operational experience, did much to ease administrative difficulties. Return flows from Woodruff Narrows Reservoir storage water increased irrigation season supply entering the Central Division to the benefit of both Wyoming and Idaho sections, even though these users are not participants in the Woodruff Narrows project. Likewise, storage from Whitney Reservoir and from Sulphur Creek Reservoir lessened the severity of interstate regulation in the Upper Wyoming Section.

Certainly the initial Compact provided a workable agreement that corrected the two most serious problems leading up to the pact: storage allowance above Bear Lake and an equitable division of natural flow. An important consideration throughout negotiations and during years of operation was that of accomplishing the purposes of the Compact with as little interference as possible in the administration of water under state law.

CHAPTER III
THE AMENDED BEAR RIVER COMPACT

Review of Provisions

Article XIII of the 1958 Compact states that at intervals not exceeding 20 years, the Commission shall review provisions of the Compact and, after public hearings, may propose amendments. Such proposed amendments must be ratified by legislatures of signatory states and consented to by Congress. During the first 10 or 12 years of river operation under the 1958 Compact, even though administrative difficulties had been overcome, it became evident that the Compact had not gone far enough in some areas, and a number of concerns pointed out the need for amending the Compact. A discussion of these concerns follows.

The 1958 Compact provided that by petition from an aggrieved user in Utah, water delivery between Idaho and Utah would be based on priority of rights without regard to state line. Such was the extent of any division between Idaho and Utah. Because of the availability of Bear Lake storage water in the river channel each year, delivery by priority has not been called for. The complexity of segregating natural flow from storage water also raised a question of the practicability of administering this provision of the Compact. However, current progress in computer modeling techniques and automated transmission of streamflow data will simplify this segregation.

Concerns and Need for Amendments

It soon became apparent that the priority provision between states in the Lower Division created an undesirable situation in which Idaho looked with apprehension at any Utah filing(s) which would appropriate significant amounts of mainstream water senior in priority to subsequent Idaho development. The answer to this dilemma was not to be involved in a race for development between states, but rather to work toward an equitable apportionment between Idaho and Utah of the undeveloped water flowing into Great Salt Lake.

The Bureau of Reclamation in the early sixties completed a rather comprehensive study of Bear River development at the Oneida Narrows in Idaho. A high dam was proposed that would impound more than 300,000 acre-feet of water to be used in Idaho and Utah. This became a controversial plan not only because of divided opinion within Idaho but because Idaho and Utah could not agree on an equitable division between states. Obviously a large interstate project was out of the question without a firm allocation of developable water to each state.

A second concern dealt with additional storage and development above Bear Lake over and above 1958 Compact allocations. Upper users had been less than enthusiastic about their 1958 storage allocation of 35,500 acre-feet annually when the upper watersheds

contributed all of the 337,000 acre-feet (1937-86) annual flow entering Idaho. Then too, the Thomas Fork allocation of 1,000 acre-feet had not been developed, being too small to spread out among users who are entitled to this storage.

A third concern dealt with ground water and its unrestricted use and development permitted by the Compact. Will further unrestricted use in the basin above Bear Lake seriously affect users of Bear Lake water in spite of the irrigation reserve and the further restriction on new storage allocation tied to a minimum level in Bear Lake? Idaho studies of applications to appropriate ground water filed after 1958 show that this will be the case and will adversely affect the protection afforded by the Compact unless it is counted and becomes a part of an annual depletion allowance.

A fourth concern was the need for depletion limits not only on ground water use but on new storage allocation that may be granted by an amendment, and on all other types of uses that would affect Bear Lake inflows. Depletion or actual consumptive use of water is not part of the 1958 pact though it was studied and given consideration by the negotiators who rejected depletion because of administrative complexity.

A fifth general concern was that any Compact revisions proposed should not adversely affect any existing irrigation rights. Obviously additional storage development above Bear Lake even with annual depletion limits will affect the inflow to Bear Lake. Likewise, an increase in ground water and surface water use will affect the inflow even with upper limits on the depletion. To give protection to irrigation use against the added depletion would mean some reduction of water used only for power production. Continued ground water development would have resulted in some reduction of power water without any Compact modification.

History of Negotiations, Amended Compact

Idaho and Utah governors met in Salt Lake City on September 25, 1967, as a result of controversy over the Bureau of Reclamation proposed project at Oneida Narrows. They agreed on the need for interstate negotiation if further development was to take place. This led to Wyoming involvement and a Tri-state Negotiating Committee appointed by the three governors. Committee members included Bear River Commission members and representatives from state water resource agencies. A meeting in Pocatello on January 7, 1970, was the first in a series of 17 meetings held over the next six years until the Committee and the Commission finally agreed on a draft of revisions.

Negotiations in the Committee charged with making recommendations for amending the Compact were not without controversy. In many ways it was history repeating itself as upstream storage, downstream protection, and decrease in Bear Lake water available for power generation were deliberated. A proposed draft of revisions was prepared in 1976 and discussed in information meetings by each state group, then in official public hearings in each state conducted by the Bear River Commission.

After the first round of public hearings on the Amended Compact in late November of 1976, the Commission decided to forget about seeking legislative approval in 1977 and concentrate on overcoming objections. Again, UP&L felt a threat to their water rights and ability to generate hydropower. Idaho and Utah irrigation interests demanded protection of Bear Lake storage similar to the initial irrigation reserve. Several Idaho interests felt they were on the short end of the Idaho-Utah division of remaining water in the Lower Division.

Addition of a provision to prohibit new storage above Bear Lake when the Lake level is below 5,911 feet overcame the most serious objections. Eliminating a reserve of 120,000 acre-feet for the Bear River Migratory Bird Refuge, for which further development would now come from Utah allocation (discussed later), erased what some considered a favorable position for Utah in apportioning the lower river.

A proposed Compact, with changes as noted, was then presented in a second round of public hearings in Logan, Montpelier, and Evanston on December 11-13, 1978. At these hearings, the Compact, in general, met with public approval. The Chairman and Mr. Skeen, Legal Advisor, met the following week with officials of UP&L and received their assurance of support for the Amended Compact. The Bear River Commission, in Regular meeting in Salt Lake City, December 22, 1978, then approved the Amended Bear River Compact, after hearing some objection from Russell Stoker, Idaho Bear River watermaster.

Idaho commissioners and the Chairman again met with UP&L officials in February of 1979 relative to approval of the Amended Compact in the Idaho Legislature. The Chairman and Idaho Commissioner, Dan Roberts, also addressed the Resources and Environmental Committee of the Idaho State Senate on March 12, 1979. Amending legislation was approved in Idaho on April 5, 1979.

State amending legislation was approved in the Wyoming Legislature on March 6, 1979, and in the Utah Legislature on May 8, 1979. Little, if any, opposition was registered in any of the state legislatures.

Preliminary drafts of the Amended Compact included a reservation of 120,000 acre-feet for further development of the Bear River Migratory Bear Refuge in Box Elder County, Utah. Federal Fish and Wildlife officials, represented by Donald G. Stewart of the Denver office, questioned the adequacy of this amount, and after some discussion, negotiators decided to delete from the Compact this provision and any reference to further development for the Refuge. This did not settle the issue, however, as Federal Wildlife officials continued to express their concern for Bird Refuge rights and further development.

A meeting was held May 30, 1979, prior to congressional hearings, with Mr. Stewart and others representing Wildlife interests; Wallace N. Jibson, Commission Chairman; Roland Robison, Department of the Interior Solicitor's Office (Salt Lake City), who served as Legal Advisor to the Chairman; and Dan Lawrence and Dee Hansen, Utah Water Resources officials and Compact negotiators. It was agreed that a letter of understanding on the Refuge right would be written to Mr. Stewart from Dee Hansen, State

Engineer. This letter reconciled concerns and headed off threatened objections to congressional approval of the Amended Compact.

House and Senate hearings were held in the fall of 1979, and congressional approval was given on January 23, 1980. The Amended Compact became law with approval by President Carter on February 8, 1980.

Summary of Changes

Amendments provide for the following principal changes to the 1958 Compact:

1. Direct-flow allocation of water in the two divisions above Bear Lake is unchanged. Allocation in the Lower Division is unchanged for water applied to beneficial use prior to January 1, 1976. All surface and ground water applied to beneficial use in the Lower Division after January 1, 1976, is divided on a depletion basis with Idaho being granted the first right to develop and deplete 125,000 acre-feet, Utah is granted the second right to 275,000 acre-feet, and the next 150,000 acre-feet is divided equally. Water in excess of the above allocations is divided with Idaho receiving 30 percent and Utah 70 percent.

2. Additional storage is granted above Bear Lake for 74,500 acre-feet, of which 4,500 acre-feet is granted to Idaho and 35,000 acre-feet each to Utah and Wyoming. This storage plus water appropriated including ground water applied to beneficial use after January 1, 1976, shall not result in an increase in depletion of more than 28,000[5] acre-feet in excess of that on January 1, 1976. Thirteen thousand (13,000) acre-feet of the additional depletion is allocated to each of Utah and Wyoming, and 2,000 acre-feet is allocated to Idaho.

3. Additional rights are granted to store water above Bear Lake which would otherwise be spilled or bypassed from Bear Lake when all other direct flow and storage rights are satisfied.

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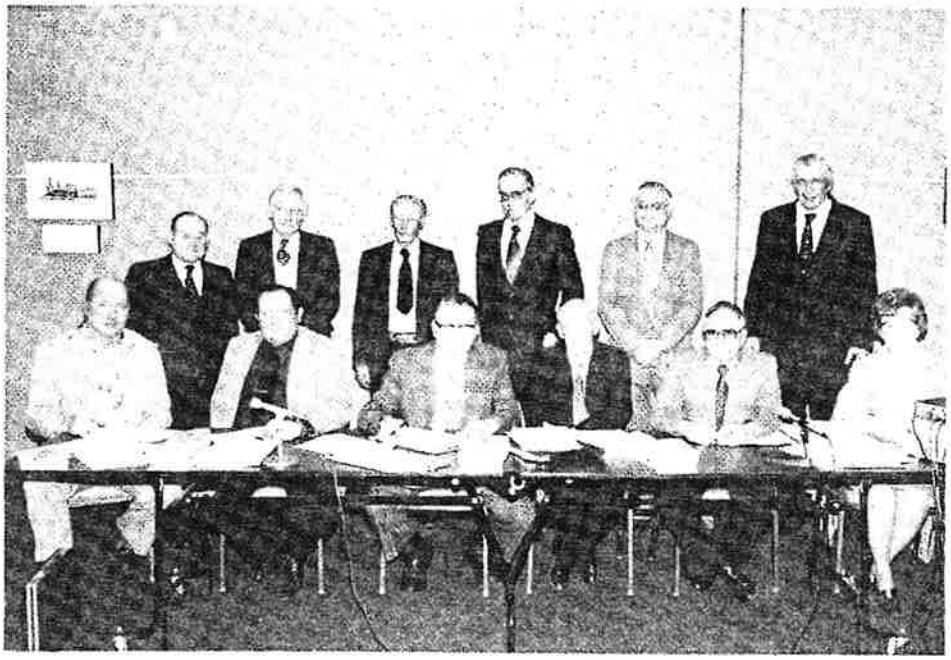
[5] A study (June 30, 1976) by the Technical Subcommittee of the negotiating group indicated that an average of 31,000 acre-feet per year of Bear Lake water could be depleted by additional upstream uses without adverse effect on present irrigation use of the Lake water. The Lake would be drawn down to zero content however in a repeat of the critical five-year period in the thirties. A depletion limitation of 28,000 acre-feet for all additional upstream uses was then negotiated.

4. Additional diversion to storage as provided by amendments to the Compact shall not be permitted when Bear Lake level is below 5,911.00 feet, UP&L datum. Last Chance Canal Company in Idaho had proposed a minimum Bear Lake level against additional upstream storage which would correspond to a three-year reserve. The selected level of 5,911.00 feet with 28,000 acre-feet maximum allowable annual depletion would allow Bear Lake to meet present requirements through the worst runoff sequence on record. Further, this level would prohibit upstream storage under the Amended Compact allocation in many of the most critical storage seasons on record. As the 5,911.00 elevation is also below the existing irrigation reserve, no water could be released solely for power generation. The relationship between the 5,911.0 elevation, the irrigation reserve, and lake levels can be seen on the graph on page 12.

To implement depletion determination required in the Amended Compact, contractual work has been done by the University of Utah and by Utah State University with assistance from the Universities of Idaho and Wyoming. The contract with the University of Utah was for determination of irrigated acreage on or near January 1, 1976, by the use of Landsat satellite pictures. We have learned that Landsat photography clearly is not the only tool to be used in determining land use. However, on-site investigation and the use of all available data is necessary to accurately depict the irrigation that is occurring.

The Utah State University study, spearheaded by Dr. Robert W. Hill, collected field data from 1982-1988 to get verification of empirical methods for estimating depletion as used in the Amended Compact. Results of this study will assist the Commission in estimating water depletion from irrigated meadows, cropland, rangelands, wetlands, and open water. An estimated depletion from each of these areas is required to administer the Amended Compact.

Signers of the Amended Compact include: for Idaho--Clifford J. Skinner, J. Daniel Roberts, and Don W. Gilbert; for Utah--S. Paul Holmgren, Simeon Weston, and Daniel F. Lawrence; for Wyoming--George Christopulos, J. W. Myers, and John A. Teichert. The Amended Compact was approved for the United States by Wallace N. Jibson, and was signed by Daniel F. Lawrence, Secretary of the Bear River Commission.



Bear River Commission and Support Staff at Signing of Amended Bear River Compact, December 22, 1978

Standing, left to right:
Daniel F. Lawrence, S. Paul Holmgren, J.W. Myers, John A. Teichert, George L. Christopulos, Simeon Weston

Seated at table, left to right:
Don W. Gilbert, Clifford J. Skinner, J. Daniel Roberts, E.J. Skeen, Wallace N. Jibson, Connie Borrowman

CHAPTER IV
REFLECTIONS, CONCLUSIONS, AND A LOOK AHEAD

It has been my privilege to serve both negotiating groups in deliberations leading to the 1958 Compact and the Amended Bear River Compact. I served as Chairman of the Negotiating Committee's Engineering Committee when the first Compact was approved and served as Chairman and Federal Representative to the Bear River Commission when the Amended Compact was approved.

A significant difference in negotiation for the two Compacts is noteworthy. Technical and legal studies for the Commission in deliberating terms of the 1958 Compact were spearheaded by Federal personnel assisted by state and private individuals sitting on legal and engineering committees. State-staffed technical subcommittees performed these services for the Amended Compact Committee with a minimum of Federal input. Implementation of the Amended Compact with respect to Commission-approved procedures is also an in-house effort, except for the University studies. This is a commendable trend in the states' role in water development and administration.

Though no group or interest received every consideration that was requested either in 1958 or in the Amended Compact, I believe the stated purposes of the Bear River Amended Compact are being accomplished: interstate comity, equitable apportionment, removal of controversy, and additional development. The Compact has modified state law and administration only where deemed necessary and proper by the signatory states. The Federal interest has been given due consideration by eliminating certain concepts that may not have been in the Federal interest, e.g. not limiting new land or change in use of land or water.

As I reflected on those who were actively involved in trying to find a way to equitably apportion the river between the three states, I found that my mind went back over nearly five decades, and I became somewhat nastolgic as I reflected upon old friends, many of whom are no longer available for consultation. When I thought about those who were formally involved, the list approached 100. As my memory has faded over time, when attempting to list those who were active participants, I am certain there will be some important names inadvertanly left off the list. However, I feel that it is most important that individuals be named. Therefore, the following is my best attempt at outlining the commissioners, negotiators, and advisors who have served the Commission over time. I have listed these individuals by date and made comments with respect to meetings which were held and changes which were made with respect to representation.

DATE	EVENT
1943-46	Informal meetings between State and Federal officials to lay groundwork for stream-gaging programs and future negotiations toward an interstate compact. IDAHO: James Spofford (Mark Kulp) State Engineer; Fred Cooper and E. J. Baird. UTAH: Ed Watson, State Engineer; and E. J. Skeen, Assistant Attorney General. WYOMING: L. C. Bishop, State Engineer; David Miller and Emil Gradert. FEDERAL: W. V. Iorns, et. al.; USGS; and E. K. Thomas, USBR.
6-23-48	First Meeting of Negotiating Commission, Jackson, Wyoming. FEDERAL: E. O. Larson, Chairman and Federal Representative; Lesher Wing, Federal Power Commission; W. V. Iorns, USGS; and E.K. Thomas, USBR. IDAHO: Mark Kulp, Fred Cooper, and William Hunter. UTAH: Ed Watson, L. B. Johnson, and Orson Christensen. WYOMING: L. C. Bishop, David Miller, and S. Reed Dayton.
12-13-48	Second Meeting, Preston, Idaho Engineering Committee appointed: Mark Kulp, Fred Cottrell, R. D. Goodrich, and E. K. Thomas. Legal Committee appointed: Robert Smiley, Clinton Vernon, and Norman Jones.
12-19-50	Third Meeting, Evanston, Wyoming Drafting Committee appointed: Norman Grey and H. T. Person, Wyoming; Fred Cooper and A. L. Merrill, Idaho; Clinton D. Vernon and C. O. Roskelley, Utah; E. J. Skeen, Legal Advisor to the Chairman; and W. V. Iorns, USGS.
12-20-51	Fifth Meeting, Salt Lake City Advisory Group: IDAHO: Melvin Lauridsen, Lynn Crandall, A. L. Merrill, Gerald Irvine (UP&L). UTAH: L. B. Johnson, Alonzo Hopkin, L. B. Caine, E. M. Van Orden, J. L. Weidman, and A. V. Smoot. WYOMING: S. Reed Dayton, J. W. Myers, Emil C. Gradert, H. T. Person, David Miller, E. B. Hitchcock, and S. Harnsberger.
1-31-52	Wallace N. Jibson succeeded W. V. Iorns as Chairman, Engineering Committee.

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9-28-54 E. J. Skeen succeeded Clinton Vernon as Secretary to the Commission. George D. Clyde and Jay R. Bingham, new members of the Utah Delegation.

2-4-55 Bear River Compact approved by Negotiators:

For IDAHO: Mark R. Kulp, Fred M. Cooper, and Melvin Lauridsen.

For UTAH: George D. Clyde, L. B. Johnson, Alonzo Hopkin, E. M. Van Orden, Orson Christensen, Lorenzo Weidman, and A. V. Smoot.

For WYOMING: L. C. Bishop, H. T. Person, Howard Black, Emil Gradert, and S. Reed Dayton.

For UNITED STATES: E. O. Larson
SECRETARY: E. J. Skeen
CONGRESSIONAL APPROVAL: March 17, 1958

4-5-58 Bear River Commission organized:

Chairman and Federal Representative: E. O. Larson (appointed 6-16-58).
IDAHO: George N. Carter, Fred M. Cooper, and Melvin Lauridsen.
UTAH: Jay R. Bingham, Lawrence B. Johnson, and A. V. Smoot.
WYOMING: Earl Lloyd, S. Reed Dayton, and J. W. Myers.
SECRETARY: Jay R. Bingham
ASSISTANT SECRETARY: Wallace N. Jibson.
LEGAL ADVISOR: E. J. Skeen (appointed 11-28-60)

12-61 Cleo L. Swendsen succeeded Idaho Commissioner Fred Cooper (deceased).

1963 Carl E. Tappan succeeded Idaho Commissioner George Carter (deceased). Floyd Bishop succeeded Wyoming Commissioner Earl Lloyd.

1965 Evan M. Kackley succeeded Idaho Commissioner Melvin Lauridsen (deceased) and was succeeded by Lloyd Dunn.

1966 Grover Harper succeeded Utah Commissioner A. V. Smoot.

1967 Idaho Commissioners succeeded by Cecil Foster, Ferris M. Kunz, and Stephen L. Smith with Ex officio member R. Keith Higginson.

1968 Daniel F. Lawrence succeeded Utah Commissioner Jay R. Bingham. Gordon Peart succeeded Utah Commissioner L. B. Johnson (deceased).

1970 S. Paul Holmgren succeeded Utah Commissioner Grover R. Harper. William G. Jenkins succeeded Idaho Commissioner Stephen Smith.

1971 J. C. Hedin succeeded Idaho Commissioner Cecil Foster.

1974 Clifford J. Skinner succeeded Idaho Commissioner Ferris Kunz (deceased).

1975 George L. Christopulos succeeded Wyoming Commissioner Floyd Bishop.

1976 Wallace N. Jibson succeeded E. O. Larson as Chairman and Federal Representative. J. Daniel Roberts succeeded Idaho Commissioner J. C. Hedin.

1978 Don W. Gilbert succeeded Idaho Commissioner W. G. Jenkins (deceased). C. Stephen Allred succeeded Ex officio member R. Keith Higginson.

12-22-78 Amended Bear River Compact approved by Bear River Commission:

For IDAHO: Clifford J. Skinner, J. Daniel Roberts, and Don Gilbert.
For UTAH: Daniel F. Lawrence, Simeon Weston, and S. Paul Holmgren.
For WYOMING: George Christopulos, J. W. Myers, and John Teichert.
APPROVED, UNITED STATES: Wallace N. Jibson.
ATTEST: Daniel F. Lawrence, Secretary.
APPROVED by The President, February 8, 1980.

1979 Simeon Weston succeeded Utah Commissioner Gordon Peart (deceased). John Teichert succeeded S. Reed Dayton for two years.

1980 Don Rex succeeded Idaho Commissioner Clifford Skinner (deceased).

1981 Kenneth Dunn succeeded Ex officio member C. Stephen Allred.

1983 Kenneth T. Wright appointed Federal Representative to succeed Wallace N. Jibson who was then appointed Engineer-Manager. Rodney Wallentine succeeded Idaho Commissioner Don Rex. Blair Francis succeeded Utah Commissioner Simeon Weston, and Dean Stuart was appointed Alternate Commissioner from Utah.

1985 Larry Anderson succeeded Utah Commissioner Daniel Lawrence. Nancy Fullmer succeeded Connie Borrowman, secretarial duties.

1987 Calvin Funk, Alternate Commissioner, succeeded Paul Holmgren (deceased). Glen Nelson appointed Alternate Utah Commissioner. Gordon W. Fassett succeeded Wyoming Commissioner George Christopulos. R. Keith Higginson succeeded Kenneth Dunn as Ex officio member.

1989 Jack A. Barnett succeeded Wallace N. Jibson as Engineer-Manager. Floyd Jensen succeeded Idaho Commissioner Daniel Roberts. R. Keith Higginson succeeded Idaho Commissioner Don W. Gilbert. Heidi Marciniak succeeded Nancy Fullmer, secretarial duties.

Many individuals have played a very important part in keeping the records of the Commission. For many years meetings leading up to decisions with respect to adoption of compacts and with respect to formal commission meetings were kept verbatim. Those records are available for anyone who might wish to conduct detailed research into the actions of the Commission.

I remember that early on Clinton Vernon was given an assignment to keep records of Negotiation Meetings. In connection with that, E. J. Skeen was given the title of Legal Advisor and Secretary. Mr. Skeen personally kept some valuable records. With time, the responsibility of secretary was given to those working for the Utah Water and Power Board and assigned by Jay Bingham or Dan Lawrence to keep record of the meetings.

With respect to detailed minutes for several meetings just prior to approving the 1958 Compact, there was a Mrs. Crowther who was given responsibility and kept very accurate verbatim minutes. In more recent years, Connie Borrowman kept the records for the Commission. Later her assignments were passed on to Nancy Fullmer. Most recently, Heidi Marciniak has taken on the responsibilities of keeping records at the Commission meetings. I feel most grateful for all of those who kept the records which we now rely upon when we review the history of the Commission and the compact negotiations.

In a more official sense, I felt it would be helpful to record those who served the three states in representing their governor's designation, and to also identify those who were assigned by the Federal Government as Federal Representatives, as well as others who held official capacities with other organizations, such as Utah Power and Light, and the Commission's Engineer-Managers. The following is a list designating the official participation as I am able to reconstruct it from my memory and from the records of the Commission:

BEAR RIVER COMMISSIONERS, ALTERNATES, AND ADVISORS

IDAHO

James Spofford, 1943-46
E. J. Baird, 1943-48
Fred Cooper, 1943-61
Mark Kulp, 1948-58
William Hunter, 1948-50
Robert Smiley, 1948-50
Lynn Crandall, 1948-52
A. L. Merrill, 1950-55
Melvin Lauridsen, 1951-64
Wesley Hubbard, 1958-?
Warren Sirrine, 1958-?
E. N. Humphrey, 1958-?
George Carter, 1958-63
Cleo L. Swendsen, 1961-67
Carl E. Tappan, 1963-67
Evan Kackley, 1965
Lloyd Dunn, 1965-67
Stephen L. Smith, 1967-70
Cecil Foster, 1967-71
Ferris Kunz, 1967-74
Keith Higginson, 1967-78; 1987-
William G. Jenkins, 1969-78
J. C. Hedin, 1971-76
Clifford Skinner, 1974-80
Daniel Roberts, 1976-89
Don W. Gilbert, 1978-89
Stephen Allred, 1978-81
Don Rex, 1980-83
Kenneth Dunn, 1981-87
Rodney Wallentine, 1983-
Floyd J. Jensen, 1990-

UTAH

Ed Watson, 1943-50
E. J. Skeen, 1943-46 (state)
Fred Cottrell, 1948-50
Clinton Vernon, 1948-54
Orson Christensen, 1948-58
C. O. Roskelley, 1948-58
L. B. Johnson, 1948-68
J. L. Weidman, 1951-56
Alonzo Hopkin, 1951-59
L. B. Caine, 1951-58
E. M. Van Orden, 1951-58
A. V. Smoot, 1951-66
George D. Clyde, 1954-58
Jay R. Bingham, 1954-68
R. J. Potter, 1964-65
Glen McKinnon, 1964-66
Wayne Criddle, 1964-67
Ross Plant, 1964-71
Robert B. Porter, 1964-75
Grover Harper, 1966-70
Calvin Funk, 1967-
Clyde Ritchie, 1967-71
Hubert C. Lambert, 1967-73
Dallin W. Jensen, 1967-88
Gordon Peart, 1968-78
Daniel Lawrence, 1968-85
Simeon Weston, 1969-83
Paul Holmgren, 1969-86
Dee C. Hansen, 1973-85
Blair Francis, 1979-
Dean M. Stuart, 1983-
D. Larry Anderson, 1985-
Robert L. Morgan, 1985-
Glen Nelson, 1987-
Michael Quealy, 1988-

WYOMING

David Miller, 1943-55
L. C. Bishop, 1943-58
Emil Gradert, 1943-58
S. Reed Dayton, 1948-
Norman Jones, 1948-?
R. D. Goodrich, 1948-50
Norman Grey, 1948-51
H. T. Person, 1949-58
H. B. Hitchcock, 1951-54
S. Harnsberger, 1951-54
Howard Black, 1956-58
Paul A. Rechard, 1956-58
J. W. Myers, 1958-
Earl Lloyd, 1958-63
Floyd Bishop, 1963-75
John Teichert, 1963-
George Christopulos, 1975-87
Gordon Fassett, 1987-

FEDERAL AND OTHERS

W. V. Iorns, 1943-52
E. K. Thomas, 1943-58
E. O. Larson, 1943-76
E. J. Skeen, 1946-(Fed.)
Wallace N. Jibson, 1947-89
Lesher Wing, 1948-50
Gerald Irvine, 1948-60
E. G. Thorum, 1952-58
Jay Haight, 1953-82
M. T. Wilson, 1957-65
Ted Arnow, 1965-86
Carly Burton, 1973-
Jody Williams, 1981-
Kenneth T. Wright, 1983-
Lee Case, 1987-
Jack A. Barnett, 1989-

Progress is being made in administrative procedures, though many problems still are not completely resolved such as accurate determination and updating of acreage with respect to depletion provisions of the Compact. Perhaps more consideration of field reconnaissance or state hydrologic surveys to supplement satellite imagery would be in order where extensive changes since 1976 have taken place.

I feel confident that results of the USU depletion study can be applied to make reasonable estimates of consumptive use for various cropping patterns in the several areas of the basin.

Serious drouth conditions in recent years promise to be more severe than that of the early thirties. Governors in Idaho and Utah have appointed members of a Task Force in each State. These committees are charged with studying further development in the lower river and in Utah of dividing the State's share of Compact allocation among interested entities from Cache County to the Wasatch Front.

Utah Power and Light, under increasing demand for the shrinking Bear Lake storage water, is insisting on accurate segregation of natural flow and storage water in Idaho and Utah below Bear Lake. With this segregation, UP&L wants state law based on the priority doctrine to be strictly applied.

This aggressive policy, though perhaps long overdue, is a far cry from the complacency that has developed through the years as many irrigators knew little and cared less about their natural flow rights. Bear Lake storage water was always there--by contract or otherwise--to supplement the natural flow.

The relationship of the use of surface and ground water in the Cache Valley has not been comprehensively addressed. Municipalities and other water users have developed ground-water sources, but the priority dates of the ground-water rights are generally more recent than the priority dates for surface-water rights. Large public supply wells producing good quality water have been developed and put to use in recent years along the east side of the valley. I view with apprehension some issues that might be raised concerning the interrelationship of ground water and surface water. There are complex questions as to how the use of one resource has an interaction upon the other. Currently there is a state/federally funded U.S. Geological Survey study being undertaken to provide more and much needed information about the ground-water resources of the Cache Valley.

Controversy over water is likely to go on and on as man continues in his efforts to harness and share and respect this life-giving resource for the use and sustenance of society. In the many water meetings attended in the last dozen or so years, I don't recall an instance where reference to the Bear River Compact has been in criticism, but always in respect as the governing law of Bear River.

To the many who have served and persevered in accomplishing an equitable apportionment of the waters of this complex and important river, I express my commendation and dedicate this history to them and to the memory of those who are no longer with us.