ATTACHMENT 1

Resource Agency Contacts

Organization	Authorized Representatives	Contact Information
U.S. Fish and Wildlife Service; Utah Ecological Services Field Office	Paul Abate, Aquatics Branch Supervisor	2369 Orton Circle, Suite 50 West Valley City, UT 84119 Phone: 801-975-3330, x130 Email: Paul_Abate@fws.gov
Utah Division of Wildlife Resources, Northern Region	Paul Thompson, Northern Region Aquatic Program Manager	515 East 5300 South Ogden, UT 84405 Phone (office): 801-476-4034 Phone (cell): 801-791-2771 Email:paulthompson@utah.g.gov
Utah Department of Environmental Quality, Watershed, Monitoring, and Water Quality Branch	Erica Gaddis, Branch Manager	PO Box 144870 Salt Lake City, UT 84114-4810 Phone: 801-536-4300 Email: egaddis@utah.gov
Utah Department of Environmental Quality, Watershed Protection	Mike Allred, Environmental Scientist	PO Box 144870 Salt Lake City, UT 84114-4810 Phone: 435-512-0278 Email: mdallard@utah.gov
Bridgerland Audubon Society	Val Grant, Past President	Phone: 435-757-9519 Email: c.val.grant@gmail.com
Bridgerland Audubon Society	Richard Mueller, Conservation Chair	Email: Richard.mueller@usu.com
Bear River Land Conservancy	Bryan Dixon, Acting Executive Director	Phone: 435-760-0691 Email: bdixon@gmail.com

Attachment 2

Cutler Hydroelectric Project (FERC No. P-2420)

Overview of the Bear River Basin and Project Facilities

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2.0 OVERVIEW OF THE BEAR RIVER BASIN

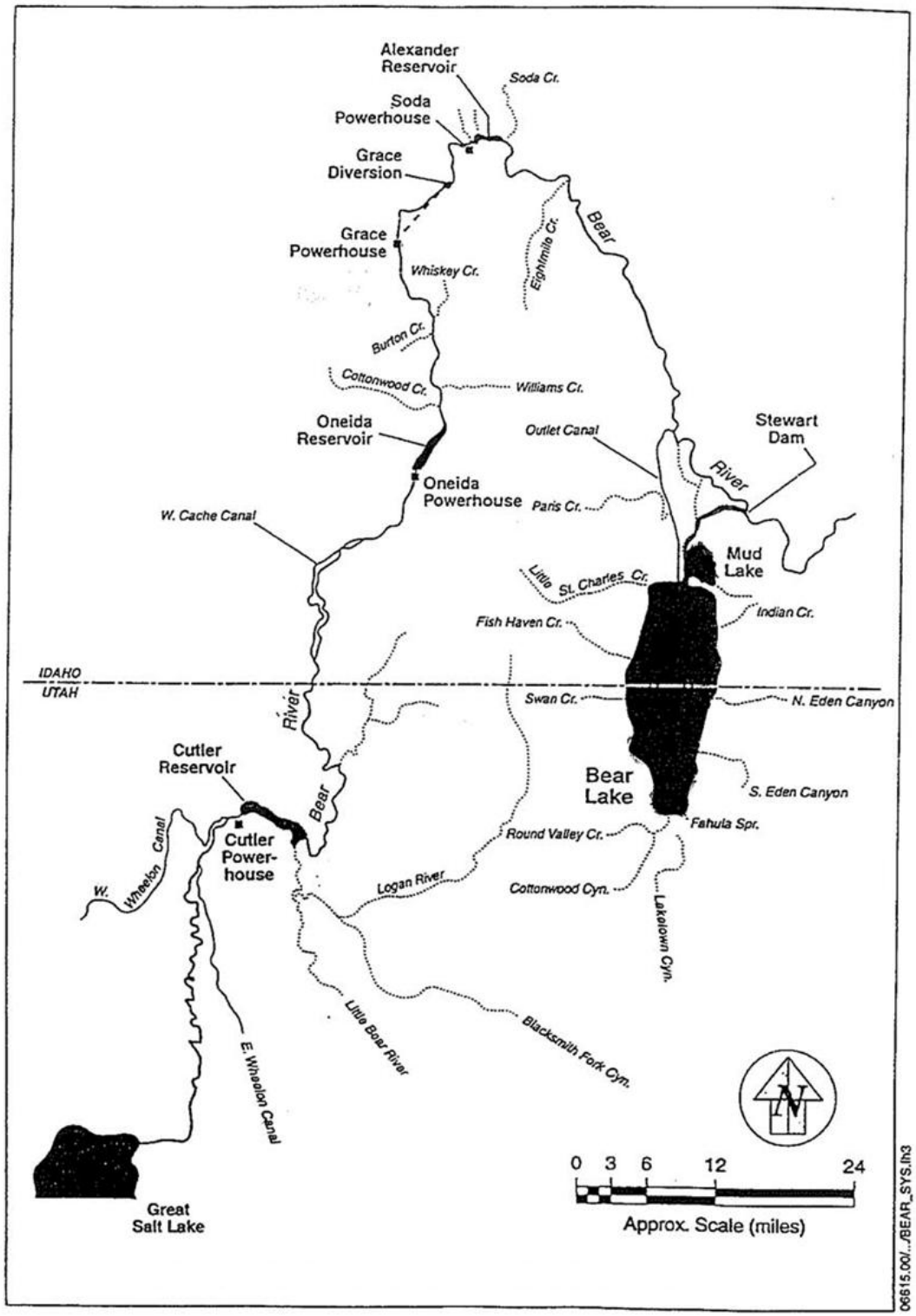
The Bear River Basin is located in northeastern Utah, southeastern Idaho, and southwestern Wyoming. It comprises approximately 7,500 square miles of mountain and valley lands (2,700 in Idaho, 3,300 in Utah, and 1,500 in Wyoming). The Bear River begins in the Uinta Mountains in Utah and extends 500 miles, crossing state boundaries five times before ending in the Great Salt Lake. It is the largest tributary to the Great Salt Lake and the largest stream in the western hemisphere that does not empty into an ocean. The Bear River ranges in elevation from over 13,000 to 4,211 feet and is unique in that it is entirely enclosed by mountains, thus forming a huge basin with no external drainage outlets.

Developed and undeveloped agricultural lands throughout the basin, as well as urban areas, are concentrated in valleys along the main stem of the river and its tributaries. The Bear River watershed also includes vast amounts of federal lands (Bureau of Land Management and United States Forest Service), private lands, and state lands that serve a range of natural and agricultural functions. The Bear River is a highly regulated system. The major headwater storage facility is Bear Lake, the pumped discharges from which are primarily for irrigation and flood control.

2.1 PROJECT DESCRIPTION

This application for Low Impact Hydropower Certification pertains to the Cutler Hydroelectric Project on the Bear River. PacifiCorp operates five hydroelectric developments in the Bear River Basin. Three of the upstream developments—Soda, Grace, and Oneida—are operated under the Federal Energy Regulatory Commission (FERC) license for the Bear River Hydroelectric Project No. P-20 in Idaho. The Last Chance development, also located upstream in Idaho, was granted an exemption from FERC licensing in 1981 due to the project's small size. The Cutler Hydroelectric Project is operated under FERC license No. P-2420 in Utah. A sixth facility on the Bear River, the Cove development, was decommissioned in 2006. The Cutler Hydroelectric Project is located 44 miles downstream of the Oneida development in Utah, near the confluence of several major tributaries. Figure 2.1-1 provides a map of the project locations.

Figure 2.1-1. Map of PacifiCorp's Bear River hydroelectric projects



The Cutler Hydroelectric Project includes a 545-foot-long, 109-foot-high concrete gravity arch dam built in 1927. The dam has a spillway containing four 30-foot-wide by 14-foot-high radial gates. A 7-foot-diameter low-level release gate is located near the base of the dam and controlled by a slide gate. Irrigation canal intake gates are located at each abutment of the dam and are an integral part of the structure. The project is operated seasonally and at full pool (4,407.5 feet msl) the reservoir gross storage capacity is 13,200 acre-feet. Active storage capacity fluctuates from approximately 5,800 acre feet from March 1 through December 1 to about 7,800 acre feet from December 2 through February 28. Much of the reservoir has the characteristics of a shallow-water emergent marsh (Figure 2.2-1); the southern portion of the reservoir has a mean depth of 1.8 feet, while the deeper section of the reservoir to the north has a mean depth of 3.6 feet. The flowline intake is a concrete tower located in the reservoir approximately 60 feet upstream of the dam. It connects to an 18-foot-diameter steel-lined conduit that passes through the dam (Figure 2.2-2). A 1,160 foot-long, 18-foot-diameter steel penstock carriers water to an 81-foot-high, 45-foot-diameter steel surge tank. Two 112-foot-long steel penstocks bifurcate from the surge tank and lead to the powerhouse. The powerhouse is a 60-foot by 123-foot brick building containing appurtenant facilities and two vertical Francis generating units with a total installed capacity of 30 MW. The Cutler Hydroelectric Project has an average annual generation of 84,185 MWh.

2.2 PROJECT PHOTOGRAPHS

Figure 2.2-1 Cutler Reservoir

Figure 2.2-2 Cutler Dam

2.3 PROJECT OPERATIONS

The Cutler Hydroelectric Project operates seasonally in normal and low-water years, generally from fall through early summer, based on the availability of flows after irrigation commitments are met (during high-water years there may be additional available flow). During the normal operation period, the facility is operated as a daily peaking project. When inflows to the reservoir are too low to keep an efficient load level on the generating units, water is stored on a daily basis until it reaches a level appropriate for power generation, then the water is released. Typically, the project suspends normal operation during low summer flows (July through September), but the facility remains available to provide short-duration emergency generation (spinning reserve). During normal operation periods, the project is operated in a semi-automatic mode whereby the generators are started and synchronized to the system manually by the local operator. Once on-line, the units are controlled remotely by the System Dispatcher to control the load on the generators to meet system requirements and to stay within the reservoir elevation guidelines. Substations containing step-up transformers and circuit breakers are located adjacent to the Cutler powerhouse. The substation serves as the point of interconnection to the transmission grid system.

ATTACHMENT 3

A. Flows

A.1 - Yes. PacifiCorp's Cutler Hydroelectric Project is in compliance with resource agency recommendations issued after December 31, 1986 regarding flow conditions for fish and wildlife protection for all reaches. Resource agency recommendations regarding flow conditions are reflected in the project Environmental Assessment (EA) adopted by the Federal Energy Regulatory Commission (FERC) license issued April 29, 1994. The project license, which includes the EA as Appendix A, is provided as Attachment 3a.

Recommendations regarding flow conditions in the EA focus on developing new operating procedures to stabilize reservoir elevations and benefit fish and wildlife resources. No recommendations have been made by agencies regarding flow levels downstream of the dam. Article 401 of the project license formalized the recommendation that PacifiCorp prepare a plan for conducting a three-year Bear River basin study. The study was designed to assess reservoir levels to determine reservoir responses to seasonal changes, create a basin-wide irrigation call system to help schedule and coordinate water deliveries, and develop a hydrologic operational model to improve predictions of available water and test modified facility operations. Per Article 401 of the project license, the study was also planned to inform the development of an operating plan for the facility.

PacifiCorp provided the "Three-Year Bear River Basin Study Plan" to the Utah Division of Wildlife Resources (UDWR), the U.S. Fish and Wildlife Service (USFWS), and area irrigators for their review and comments. In a letter dated October 26, 1994, the USFWS wrote that the plan "is a good start to the creation of the Cutler Operating Plan that will balance the competing needs of wildlife, fish, recreation, power generation and irrigation."

As a result of the Three-Year Bear River Basin Study, appropriate reservoir elevation range targets were established. In 1999, PacifiCorp completed the Cutler Operational Plan and provided copies for comment to the USFWS, the UDWR, and local irrigators. The USFWS provided the sole set of comments on the Plan in a letter dated August 2, 1999. According to FERC, USFWS stated that, with monitoring and annual reporting, operating the Cutler facility in accordance with the Plan will benefit fish and wildlife resources, reduce soil and shoreline erosion, and improve recreational opportunities (see Attachment 3b). FERC modified and approved the Operational Plan in an Order dated April 30, 2002 and adopted the USFWS recommendation of annual reporting on reservoir levels (Attachment 3b). The adopted reservoir operating levels are as follows:

Time Period	**Operating Range** (Elevation in feet)	**Tolerance Range** (feet)	**Target Percentage**
March 1 through December 1	4407.5 to 4406.5	+.25, -.25	95%
December 2 through February 28	4407.5 to 4406.0	+.25, -.50	90%

The "Tolerance Range" is an amount above and below the operating range for which PacifiCorp is still considered in compliance with the requirement while continuing to work to bring the reservoir level back within the operating range. The "Target Percentage" represents the percentage of time that PacifiCorp must maintain the reservoir level within the operating range (including the tolerance band). The Target Percentages reflect the fact that factors beyond PacifiCorp's control, such as Bear River irrigation returns and inflows from smaller tributaries, occasionally prevent the facility from maintaining the operating range. Achieving the appropriate reservoir elevation is further complicated by the distance between the dam and the main body of the reservoir, the shallow slope of the reservoir, and flow constriction points and the buildup of sediment in the middle of the reservoir that allows water to pool behind it even when water releases at the dam are maximized.

PacifiCorp notifies FERC on any occasion in which the reservoir operating range is exceeded. Planned exceedences occurred during the October-January periods of 2013-2014 and 2014-2015 as part of a large-magnitude drawdown required for a planned maintenance project that included required agency consultation and resultant comments. A record of notification to FERC with resource agency consultation for the 2014-2015 drawdown is provided in Attachment 3c. PacifiCorp also submits annual reports on the operation of the Cutler Reservoir to FERC and to resource agencies upon request. Attachment 3d includes correspondence with FERC confirming compliance with the reservoir operating range targets for the 2009 through 2013 water years (October-September). In the past 5 years, there were two unplanned deviations from the reservoir operating range. In June 2009 there was a 7-day period when the water surface elevation was drawn down below the operating range to accommodate a period of abnormally high flow conditions. This event was reported to the agencies and FERC did not consider it to be a violation of the license (Attachment 3e). In August 2014, there was a 0.03 foot exceedance of the upper tolerance elevation of the reservoir that was related to abnormally high rainfall. This event was reported to FERC and the UDWR, UDEQ, and USFWS. There were no reports of adverse environmental impacts received (Attachment 3f). The project is achieving the Target Percentages for meeting the operating range.

PacifiCorp's maintenance of steady reservoir levels contributed to Cutler's designation in 2008 as an "Important Bird Area" by the National Audubon Society. Important Bird Areas are recognized for their role in providing essential habitat to one or more species of vulnerable birds. In their description of the Cutler site, the National Audubon Society states: "Essentially this area

is a good microcosm of the Great Salt Lake and provides habitat for many of the same birds as the Great Salt Lake. In high water years, habitat lost around the Great Salt Lake may push birds elsewhere, and at least one rookery of White-faced Ibis was established in Cutler Marsh during the 1980s perhaps as a result. *The marshes and mudflats therefore quite probably offer a buffer for habitat stressed nearby because water levels are kept very constant by PacifiCorp.*" (emphasis added).

On December, 2, 2010, the Utah Division of Wildlife Resources provided a letter in support of LIHI certification for the Cutler Hydroelectric Project that indicated that management of Cutler Reservoir water levels benefit fish and wildlife species and that the releases of water into the Bear River are suitable for fish survival (Attachment 3g).

ATTACHMENT 3a

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

PacifiCorp Electric Operations — Project No. 2420-001
Utah

ORDER ISSUING NEW LICENSE
(Major Project)
(ISSUED APRIL 29, 1994)

PacifiCorp Electric Operations (PacifiCorp) filed a license application under Part I of the Federal Power Act (FPA) for the continued operation and maintenance of the 30-megawatt (MW) Cutler Project located on the Bear River, in Cache and Box Elder Counties, near Logan, Utah. 1 The project would produce about 106 gigawatthours (GWh) of electricity annually.

Notice of the application has been published. No agency or intervenor objected to issuance of this license. Comments received from interested agencies and individuals have been fully considered in determining whether to issue this license.

The staff issued a draft environmental assessment (EA) for this project on January 27, 1994. The staff analyzed and considered all the comments filed pursuant to the draft EA. The staff issued a final EA on April 7, 1994, which is attached to and made part of this license order. The staff also prepared a Safety and Design Assessment (S&DA), which is available in the Commission's public file for this project.

The American Whitewater Affiliation and American Rivers, Inc. filed a timely joint motion to intervene seeking to protect the nondevelopmental values of the Bear River. They believe there are significant opportunities on the Bear River for enhancing fish, wildlife, and recreation resources.

The Bear River Canal Company (BRCC) filed a late motion to intervene which was granted by a notice issued on June 17, 1993. BRCC is concerned that operational changes at the project could affect water delivery for irrigation.

Mr. Paul Stewart also filed a late motion to intervene which was granted by a notice issued on September 7, 1993. Mr. Stewart is a local farmer and owns land adjacent to the project

1 The original license was issued on December 23, 1968, and expired on December 31, 1993. 40 FPC 1494. The project is currently operating under an annual license that went into effect when the original license expired, per Section 15(a)(1) of the FPA.

reservoir. He is concerned about impacts to landowners that may occur from PacifiCorp's plans to enhance public access and wildlife habitat.

The concerns raised in these motions are addressed in appropriate sections of the EA.

PROJECT DESCRIPTION

The existing project consists of a 109-foot-high concrete gravity arch dam with a spillway containing four 14-foot-high radial gates, a reservoir with a surface area of about 5,459 acres and a storage capacity of about 13,200 acre-feet, an 18-foot-diameter steel-lined conduit passing through the dam, a 1,160 foot-long steel penstock, an 81-foot-high steel surge tank, two 112-foot-long steel penstocks, a powerhouse with a total installed capacity of 30 MW, and appurtenant facilities. See a detailed project description in ordering paragraph B(2).

PACIFICORP'S PLANS AND CAPABILITIES

PacifiCorp's Record as a Licensee

In accordance with Sections 10 and 15 of the FPA, the staff evaluated PacifiCorp's record as a licensee for these areas: (1) conservation efforts; (2) compliance history and ability to comply with the new license; (3) safe management, operation, and maintenance of the project; (4) ability to provide efficient and reliable electric service; (5) need for power; (6) transmission line improvements; and (7) project modifications. I accept the staff's findings in each of these areas.

Here are their findings:

1. Section 10(a)(2)(C): Conservation Efforts

The staff reviewed PacifiCorp's efforts to conserve electricity and found that it: (1) uses all the energy generated by the project in its system; (2) encourages conservation by its customers; and (3) maintains extensive ongoing programs to reduce system peak demand.

Its plans and activities to promote and achieve conservation of electric energy and to reduce the peak demand for generating capacity include: (1) energy audits; (2) water heater insulation; (3) implementation of demand-side management programs; and (4) making loans available for residential weatherization.

PacifiCorp's plans meet the statutory requirements of the

Public Service Commission of Utah. Its efforts also conform to the development plans and programs of the Pacific Northwest Electric Power and Conservation Planning Council and its Regional Energy Plan.

Therefore, PacifiCorp is making a good faith effort to conserve electricity.

2. Sections 15(a)(3)(A) and 15(a)(2)(A): Compliance History and Ability to Comply with the New License

The staff reviewed PacifiCorp's compliance with the terms and conditions of the existing license and found that PacifiCorp's overall record of making timely filings and compliance with its license is satisfactory.

Based on past performance, PacifiCorp has the ability to comply with terms of the new license.

3. Section 15(a)(2)(B): Safe Management, Operation, and Maintenance of the Project

PacifiCorp's proposal wouldn't adversely affect the project's operation and safety.

Under Part 12 of the Commission's regulations, PacifiCorp filed the fourth Part 12 Safety Inspection Report on December 20, 1985. PacifiCorp also has an emergency action plan (EAP) on file in the plant office. PacifiCorp-East, regional office for the licensee, conducts annual unannounced tests of the EAP and all personnel receive annual scheduled training. The staff found that the report and plan are adequate.

PacifiCorp shows regard for public safety by: (1) installing fences and gates at the powerhouse and dam to deter unauthorized access; (2) placing warning signs at dangerous areas; and (3) installing safety barriers at the dam to keep boaters away from the spillway.

Therefore, the project is safe for continued use and operation.

4. Section 15(a)(2)(C): Ability to Provide Efficient and Reliable Electric Service

The staff examined PacifiCorp's record of lost generation due to unscheduled outages and found that the outages have been

minimal and lost generation was not significant compared to the total annual generation for this project.

Therefore, PacifiCorp is operating in an efficient and reliable manner.

5. Section 15(a)(2)(D): Need for Power

The project is located in the Northwest Power Pool area of the Western Systems Coordinating Council. Utah Power and Light Company (UP&L) is an operating utility system owned by PacifiCorp. The Cutler Project is part of UP&L's system operating in the state of Utah.

PacifiCorp's operation of electrical systems, including the operation of the project, is coordinated using guidelines prescribed by the region's Northwest Power Planning Council (Council). The Council forecasts that the region will need new resources sometime between 1995 and 2004 in the most likely medium scenario.

The Bonneville Power Agency places a somewhat higher probability on the medium forecast than the Council does. Its forecast shows that additional resources would be needed by 1994. The Pacific Northwest Utilities Conference Committee's 1993 regional firm energy loads and resources projections show resource deficits occurring sometime in 1993.

The project's average annual generation of 106 GWh, which is a small part of UP&L's total requirement, helps to lower system deficits, reduces costs to ratepayers, and reduces emission of noxious byproducts caused by the combustion of fossil fuels.

Therefore, the Cutler Project provides a necessary source of power for PacifiCorp.

6. Section 15(a)(2)(E): Transmission Line Improvements

PacifiCorp proposes no changes to the existing transmission system of the project.

The existing transmission system is sufficient, and no changes to the service affected by the project operation would be necessary whether the Commission issues a license for the project or not.

7. Section 15(a)(2)(F): Project Modifications

PacifiCorp is not proposing any major modifications to the project.

The staff looked at installing more capacity at the site and

determined that it is not feasible at this time. Therefore, no other project modifications are necessary.

WATER QUALITY CERTIFICATION

On August 13, 1991, PacifiCorp applied to the Utah Department of Environmental Quality (DEQ) for a water quality certification for the project, as required by section 401 of the Clean Water Act. On November 20, 1991, the DEQ accepted PacifiCorp's application, certified compliance to applicable state water quality standards, and granted the certificate (letter from Don A. Oster, Executive Secretary, Utah State Water Quality Board to Jim Burruss, Senior Environmental Analyst, Utah Power, November 20, 1991).

RECOMMENDATIONS OF FISH AND WILDLIFE AGENCIES

Section 10(j)(1) of the FPA requires the Commission to include license conditions based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act for the protection, mitigation, and enhancement of fish and wildlife. No fish and wildlife agency recommendations were filed for the project in response to our notice that the application was ready for environmental analysis.

COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with federal and state comprehensive plans for improving, developing, or conserving waterways affected by the project. Federal and state agencies have filed 5 plans that address various resources in Utah. Four plans are relevant to this project. 2 No conflicts were found.

2 (1) Whooping Crane recovery plan, Fish and Wildlife Service, 1986, Albuquerque, New Mexico; (2) North American Wildlife Management Plan, Fish and Wildlife Service and Canadian Wildlife Service, 1986, Department of the Interior, Twin Cities, Minnesota: (3) North American Waterfowl Management Plan, 1986, Fish and Wildlife Service and Canadian Wildlife Service, Department of the Interior; (4) Statewide Comprehensive Outdoor Recreation plan, 1985, Utah Department of Natural Resources, Division of Parks and Recreation, Salt Lake City, Utah.

COMPREHENSIVE DEVELOPMENT

Sections 4(e) and 10(a)(1) of the FPA, 16 U.S.C. 797(e) and 803(a)(1), respectively, require the Commission to give equal consideration to all uses of the waterway on which the project is located. When the Commission reviews a hydropower project, the recreational, fish and wildlife, and other nondevelopmental values of the involved waterway are considered equally with its electric energy and other developmental values. In determining whether, and under what conditions, a hydropower license should be issued, the Commission must weigh the various economic and environmental tradeoffs involved in the decision.

To protect, mitigate continuing project impacts to, and enhance the environmental resources of the project area, PacifiCorp proposes to:

- Conduct a Bear River Basin study to aid in the development of new operating procedures for stabilizing reservoir elevations at the Cutler Project in order to enhance waterfowl nesting, fish spawning, and recreational use.

- Establish a permanent vegetated buffer strip, up to 200 feet wide, on project lands adjacent to the reservoir between State Highway 30 and the State Highway 23 bridge to limit shoreline erosion, remove sediments and nutrients from runoff, and enhance wildlife habitat. Under its buffer proposal, within 3 years of issuance of a new license, PacifiCorp would: (1) install up to 1.5 miles of gabions or riprap along the reservoir shoreline in this area; (2) stabilize an additional 2.0 miles of shoreline by planting deep-rooted shrubs and willows to reestablish vegetation; (3) reseed about 50.0 acres of tilled ground to create a grassland buffer strip; and (4) construct about 6.0 miles of fence to control cattle.

- Install four fish cover structures in the reservoir.

- Reduce impacts to spawning fish and waterfowl nesting by limiting reservoir water level fluctuations as an interim measure until completion of the above Bear River Basin study.

- Modify existing leases and land use practices on about 4,500 acres of currently leased project lands. Leases would be rewritten on about 300 acres of currently tilled ground to provide food and cover for migratory waterfowl, and up to an additional 6 miles of fence to enhance wildlife habitat would be installed.

- Notify the Utah State Historic Preservation Officer (SHPO)

if any historic sites are discovered during any maintenance or construction activities within the project area, and work with the SHPO to develop and install interpretive signs to describe the historical significance of the Cutler hydroelectric facilities.

- Enhance recreational opportunities by improving and enlarging the existing Benson marina, establishing seven new public access areas, constructing a walking trail, providing additional parking for hunters, and conducting a user survey.

- Mitigate impacts on wetlands due to the development of new recreation facilities.

- Incorporate the above proposals into a single resource management plan (RMP) for all project lands.

In addition to PacifiCorp's proposed environmental enhancement measures, the staff recommended that PacifiCorp prepare and implement a cultural resources management plan.

Based on the staff's independent review and evaluation of PacifiCorp's proposal, PacifiCorp's proposal with staff's additional recommendation, and the no-action alternative, I am issuing this license for the continued operation of the project as proposed with staff's additional recommendation.

Several elements of the the proposed project with staff's recommended cultural resources management plan would involve tradeoffs between environmental resources or would substantially affect project economics. The fish cover structures, the buffer zone and related wildlife habitat enhancements, and the enhancements to the recreational facilities would all involve significant costs. The staff's basis for our recommending these measures is as follows.

Fish Cover Structures

The four structures proposed by PacifiCorp would provide cover for game and forage fish in an area where cover is needed. The staff believes that the increase in fish habitat that would result would lead to increased public use of the reservoir fishery such that the $8,000 to $10,000 cost would be balanced by at least as much public benefits over the term of the license. Therefore, PacifiCorp should prepare a plan for installing the proposed fish cover structures in consultation with the Utah Division of Water Resources and the Fish and Wildlife Service.

Vegetative Buffer Zone, Wildlife Habitat Enhancement, and Management Plans

PacifiCorp has proposed to develop a RMP to protect and enhance wildlife habitat, recreation, and for the continuation of managed agricultural uses at the project. PacifiCorp has proposed a number of specific measures to enhance riparian areas and wildlife habitat north of State Highway 30. The RMP would also contain the same kind of enhancement measures for all project lands south of State Highway 30.

PacifiCorp's proposed measures for lands north and south of State Highway 30 would enhance wildlife habitat. The buffer strip and seeded areas would provide food and cover for waterfowl and other wildlife. Also, the buffer strip would assist in reducing shoreline erosion and removing sediment and nutrients from sheet runoff, which would improve water clarity and may ultimately increase duck production. Including similar management techniques in the RMP, as PacifiCorp proposes, would enhance wildlife habitat south of State Highway 30. Enhancing project wildlife habitat would offset, in part, the cumulative impacts that agriculture, irrigation, hydroelectric projects, and industry have had on waterfowl in the Bear River Basin.

The staff believes that the public benefits that would accrue over the term of a new license through increased public use of the project area as a result of these measures (buffer zone - $200,000; habitat enhancements - $50,000; RMP - $50,000) justifies their cost. Therefore, PacifiCorp should prepare a final RMP that includes the location and final design of the proposed measures for the buffer zone and wildlife habitat enhancements.

Recreation Enhancements

There is an obvious need for additional, designated public access on the project reservoir. The lake is large, and is a significant recreation resource that is very near to a major population center. Further, this area of Utah has a growing population and many other lakes in this region are being used at near-capacity levels. Because PacifiCorp's proposed recreation developments would greatly enhance public access to the Cutler reservoir, and should lead to significantly greater use of the project area, the $440,000 cost is justified.

Conclusion

Fish and wildlife resources, water quality, and recreation would be enhanced under PacifiCorp's proposal. This order generally adopts, as have the resource agencies, PacifiCorp's proposal. The only change that is required is that a cultural resources management plan be prepared and implemented for the

project. This measure wouldn't add a significant cost to PacifiCorp's proposal.

The combined cost for PacifiCorp's proposed enhancement measures for the project is $751,000, plus $55,000 per year for operation and maintenance. This equates to an average annual net cost, over the term of a 30-year license, of $221,600.

With these measures, the project would continue to have net benefits to ratepayers based on the cost of power from alternative sources over the new license period.

I believe that the benefits explained above justify the cost to PacifiCorp. With these measures, the project would provide 106 GWh of energy annually helping to meet a part of the projected power need in the area. The clean energy that would be produced by the project would continue to displace fossil-fueled power generation, thereby conserving nonrenewable energy resources and reducing the emissions of noxious gases that contribute to atmospheric pollution and global warming.

LICENSE TERM

In 1986, the Electric Consumers Protection Act (ECPA) modified section 15 of the FPA to specify that any license issued shall be for a term that the Commission determines to be in the public interest, but not less than 30 years, nor more than 50 years. The Commission's policy, which establishes 30-year terms for those projects that propose little or no redevelopment or new construction, 40-year terms for those projects that propose moderate redevelopment or new construction, and 50-year terms for those projects that propose extensive redevelopment or new construction, is consistent with the FPA as modified by ECPA.

Since PacifiCorp does not propose any changes in the existing project works for the Cutler Project, I am issuing the new license for a term of 30 years.

SUMMARY OF FINDINGS

Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the attached EA. Issuance of the license is not a major federal action significantly affecting the quality of the human environment.

The project will be safe if operated, and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the S&DA.

I conclude that the Cutler Project does not conflict with any planned or authorized development, and is best adapted to the comprehensive development of the Bear River for beneficial public use.

The Director orders:

(A) This license is issued to the PacifiCorp Electric Operations (licensee) for a period of 30 years, effective the first day of the month in which it is issued, to operate and maintain the Cutler Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, as shown on exhibits G-1 through G-5 (FERC Drawing Numbers 18 through 22) of the application.

(2) The project consists of: (1) a 545-foot-long, 109-foot-high concrete gravity arch dam, with a spillway containing four 30-foot-wide by 14-foot-high radial gates; (2) a reservoir with a surface area of about 5,459 acres and storage capacity of about 13,200 acre-feet at an elevation of 4,407.5 feet mean sea level; (3) a 7-foot-diameter low-level sluiceway located near the base of the dam controlled by a slide gate; (4) an intake tower and cylinder gate with a maximum opening of 10 feet; (5) an 18-foot-diameter steel-lined conduit passing through the dam; (6) a 1,160 foot-long, 18-foot-diameter steel penstock; (7) an 81-foot-high, 45-foot-diameter steel surge tank; (8) two 112-foot-long, 14-foot-diameter steel penstocks that bifurcate from the surge tank; (9) a brick 60-foot by 123-foot powerhouse containing 2 generating units with a total installed capacity of 30 MW; and (10) appurtenant facilities.

The project works generally described above are more specifically described in exhibit A of the license application and shown by exhibit F:

Exhibit F-	FERC No. 2420-	Title
F-1	12	location of principal project works
F-2	13	plan and profile of flowline
F-3	14	plan, elevations, and sections of Cutler Dam
F-4	15	plan and sections of flowline intake

F-5	16	cross section and elevation of powerhouse
F-6	17	plan of powerhouse

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project and located within or outside the project boundary, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits A, F and G of the license application are approved and made part of the license.

(D) This license is subject to the articles set forth in Form L-10, (October 1975), entitled "TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MAJOR PROJECT AFFECTING THE INTERESTS OF INTERSTATE OR FOREIGN COMMERCE"" and the following additional articles:

Article 201. The licensee shall pay the United States an annual charge, effective the first day of the month in which this license is issued, for the purpose of reimbursing the United States for the cost of administration of Part I of the FPA, as determined by the Commission. The authorized installed capacity for that purpose is 40,000 horsepower.

Article 202. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of

any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69 kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the

conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have

recreational value.

(3) The instrument of conveyance must include the following covenants running with the land : (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 203. Pursuant to Section 10(d) of the FPA, a specified reasonable rate of return upon the net investment in the project shall be used for determining surplus earnings of the project for the establishment and maintenance of amortization reserves. The licensee shall set aside in a project amortization reserve account at the end of each fiscal year one half of the project surplus earnings, if any, in excess of the specified rate of return per annum on the net investment. To the extent that there is a deficiency of project earnings below the specified rate of return per annum for any fiscal year, the licensee shall deduct the amount of that deficiency from the amount of any surplus earnings subsequently accumulated, until absorbed. The

licensee shall set aside one-half of the remaining surplus earnings, if any, cumulatively computed, in the project amortization reserve account. The licensee shall maintain the amounts established in the project amortization reserve account until further order of the Commission.

The specified reasonable rate of return used in computing amortization reserves shall be calculated annually based on current capital ratios developed from an average of 13 monthly balances of amounts properly includible in the licensee's long-term debt and proprietary capital accounts as listed in the Commission's Uniform System of Accounts. The cost rate for such ratios shall be the weighted average cost of long-term debt and preferred stock for the year, and the cost of common equity shall be the interest rate on 10-year government bonds (reported as the Treasury Department's 10 year constant maturity series) computed on the monthly average for the year in question plus four percentage points (400 basis points).

Article 204. The Commission reserves authority, in the context of a rulemaking proceeding or a proceeding specific to this license, to require the licensee at any time to conduct studies, make financial provisions, or otherwise make reasonable provisions for decommissioning of the project. The terms of this article shall be effective unless the Commission, in Docket No. RM93-23, finds that the Commission lacks statutory authority to require such actions, or otherwise determines that the article should be rescinded.

Article 401. Within 6 months from the date of issuance of this license, the licensee shall file with the Commission, for approval, a plan for conducting a 3-year Bear River Basin Study as proposed in the license application on pages 7 and 8, Exhibit B.

The study plan shall include, but not be limited to:

(1) the development of a basin-wide irrigation call system that includes irrigation companies and individual irrigators;

(2) the development of an operational model to provide a statistical method for improving the operation of the Bear River system;

(3) an assessment of reservoir levels at specific locations at Cutler reservoir to develop a reservoir level relationship between each location;

(4) the testing of a 1-year operational plan to control reservoir fluctuations from mid-reservoir (near Benson Marina) to the south end of the reservoir while maintaining the current irrigation supply;

(5) the development of a final Cutler reservoir operating plan that best meets the needs of wildlife, recreation, power generation, and irrigation based on meteorology, runoff and seasonal power requirements;

(6) a schedule for implementing the study, consulting with the appropriate agencies and interested parties, and filing the results in a final report.

The licensee shall prepare the plan and final report after consultation with the Utah Division of Wildlife Resources, the U.S. Fish and Wildlife Service, and area irrigators including the Bear River Canal Company. The licensee shall include with the plan and study report documentation of consultation, copies of comments and recommendations on the completed plan and study report after it has been prepared and provided to the agencies and irrigators, and specific descriptions of how the agencies' and irrigators' comments are accommodated. The licensee shall allow a minimum of 30 days for the agencies and irrigators to comment and to make recommendations before filing the plan and study report with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 402. Within 1 year after issuance of this license, the licensee shall file with the Commission, for approval, a Resource Management Plan (RMP) for project lands.

The plan shall include maps, final design drawings, an implementation schedule, provisions for the plan's periodic review and revision, and identify the entity responsible for operation and maintenance and shall provide for, but not be limited to, the following measures:

(1) A plan to establish a permanent vegetated buffer strip, up to 200 feet wide, on project lands adjacent to the reservoir between State Highway 30 and the State Highway 23 bridge to limit shoreline erosion, remove sediments and nutrients from runoff, and enhance wildlife habitat. The buffer plan shall include a schedule for: (a) installing up to 1.5 miles of gabions or riprap along the reservoir shoreline; (b) stabilizing an additional 2.0 miles of shoreline by planting deep-rooted shrubs and willows to reestablish vegetation; (c) reseeding about 50.0 acres of tilled ground to create a grassland buffer strip; and (d) constructing about 6.0 miles of fence to control cattle, within 3 years of issuance of a new license.

(2) The modification of existing leases and land use practices

on about 4,500 acres of currently leased project lands. Leases would be rewritten on about 300 acres of currently tilled ground to provide food and cover for migratory waterfowl, and up to an additional 6 miles of fence would be installed.

(3) A final recreation plan that includes the public recreation enhancements detailed on pages 5-28 through 5-36, and page 43 of the licensee's application for new license, Exhibit E, plus measures to ensure that the public uses only designated access areas.

(4) The final design of measures to replace the wetlands affected by recreational facility construction on a 1:1 acreage ratio; including a plan for monitoring the effectiveness of the measures to replace wetlands affected by recreational facility construction, and steps to be taken in the event that the measures are not effective in replacing the wetlands, including, but not necessarily limited to, modifying the measures or establishing or enhancing additional wetlands; a proposal to provide recommendations to the agencies and the Commission for alternative wetland mitigation if monitoring indicates that the implemented wetland establishment or enhancement is not successful; and schedules for establishing or enhancing wetlands, for filing the results of the monitoring program, and for filing recommendations for alternative wetland mitigation.

(5) Final plans for installing fish habitat enhancement structures in the reservoir; including a map of the structures' location; detailed descriptions and design drawings of the structures; a plan to manage, monitor, and maintain the structures; and an implementation schedule.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service, the Utah Divisions of Wildlife, Water Resources, and Parks and Recreation, the National Park Service, current leaseholders and neighboring landholders, and the Bear River Canal Company. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the consulted entities, and specific descriptions of how the plan accommodates the consulted entities' comments. The licensee shall allow a minimum of 30 days for the entities to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing activities shall occur until the licensee is notified that the plan has been approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 403. The licensee shall consult with the Utah State Historic Preservation Officer (SHPO) and develop and implement a cultural resources management plan to avoid and mitigate any impacts to the historical integrity of the Cutler Project dam and powerhouse from maintenance and repair work conducted during project operation.

The licensee shall file within 1 year after the date of issuance of this license: (1) a copy of the cultural resources management plan for Commission approval; and (2) the written comments of the SHPO on the plan. The plan shall be based on the recommendations of the SHPO and adhere to the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

The Commission may require revisions to the plan based on the filing. The licensee shall not implement the cultural resources management plan until informed by the Commission that the requirements of this article have been fulfilled.

Article 404. If archeological or historic sites are discovered during project operation, the licensee shall: (1) consult with the Utah State Historic Preservation Officer (SHPO); (2) prepare a cultural resources management plan and a schedule to evaluate the significance of the sites and to avoid or mitigate any impacts to any sites found eligible for inclusion in the National Register of Historic Places; (3) base the plan on the recommendations of the SHPO and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; (4) file the plan for Commission approval, together with the written comments of the SHPO on the plan; and (5) take the necessary steps to protect the discovered sites from further impact until notified by the Commission that all of these requirements have been satisfied.

The Commission may require a cultural resources survey and changes to the cultural resources management plan based on the filings. The licensee shall not implement a cultural resources management plan or begin any land-clearing or land-disturbing activities in the vicinity of any discovered sites until informed by the Commission that the requirements of this article have been fulfilled.

Article 501. If the licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the

same manner as for benefits received during the term of this new license.

(E) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to the Commission filing. Proof of service on these entities must accompany the filing with the Commission.

(F) This order is issued under authority delegated to the Director and constitutes final agency action. Request for rehearing by the Commission may be filed within 30 days of the date of this order, pursuant to 18 C.F.R. 385.813. The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Fred E. Springer
Director, Office of

ENVIRONMENTAL ASSESSMENT
FOR HYDROPOWER LICENSE

Cutler Hydroelectric Project

FERC Project No. 2420

Utah

ENVIRONMENTAL ASSESSMENT
FOR HYDROPOWER LICENSE

Cutler Hydroelectric Project

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Utah

Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Project Review
825 N. Capitol Street, NE
Washington, D.C. 20426
April 5, 1994

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SUMMARY

PacifiCorp Electric Operations (PacifiCorp) has applied for a new license for its existing, operating, Cutler Hydroelectric Project located on the Bear River in Utah. PacifiCorp is proposing to improve fish and wildlife habitat and public access at the project reservoir by installing new access facilities, adjusting current land use practices, and providing a reservoir buffer zone. They would also study ways of permanently limiting Cutler Reservoir water level fluctuations via a Bear River Basin Study.

In this Environmental Assessment (EA) we analyze the effect that continued project operation, under a new license, would have on the environment and on developmental resources, and make recommendations for conditions that would be included in any new license that may be issued. Under the no-action alternative, there would be no change to the existing environment, nor would any environmental enhancement measures be implemented. We found that this alternative would not be in the public interest.

Action alternatives that we analyzed included licensing the project as proposed by PacifiCorp, and with additional enhancement measures. We agree, as do the agencies, with PacifiCorp's proposal for the project, which includes conceptual plans for new public access facilities, water quality, and fish and wildlife habitat enhancements, all of which would be included in a single Resource Management Plan (RMP) for the project. We recommend that PacifiCorp prepare, and file for Commission approval, a final RMP for the project based on the measures proposed in their application.

We've concluded that, under our recommended alternative, issuing a new license for the project wouldn't result in a significant adverse environmental impact, and that an Environmental Impact Statement is not required.

ENVIRONMENTAL ASSESSMENT

FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING, DIVISION OF PROJECT REVIEW

Cutler Hydroelectric Project
FERC Project No. 2420-001

Utah
April 7, 1994

INTRODUCTION

The Federal Energy Regulatory Commission issued the Cutler Draft Environmental Assessment (DEA) for comments on January 27, 1994. In response, we received 3 comment letters. The commentors are listed in the Comments on the Draft EA section (Section IV.C.). All comment letters were reviewed by the staff. Sections of the DEA that were modified as a result of the comments received are shown in the staff responses to the right of the comment letters in Appendix A.

I. APPLICATION

On December 23, 1991, PacifiCorp Electric Operations (PacifiCorp) filed a new license application for the existing 30 megawatt (MW) Cutler Project. The original license for the project expired on December 31, 1993. The project is currently operating under an annual license that went into effect when the original license expired, per Section 15 (a)(1) of the Federal Power Act (Act).

PacifiCorp proposes to continue operating the project and to provide a number of environmental enhancement measures. The project is located on the Bear River, in Cache and Box Elder counties, near Logan, Utah. The project does not occupy any federal lands.

II. PURPOSE AND NEED FOR ACTION

A. Purpose of Action

The Commission must decide whether or not to issue a new license, and if any conditions should be placed on the new license to protect or enhance existing environmental resources and/or to mitigate for any continuing adverse environmental impacts that occur due to project operation. Issuing a new license would allow PacifiCorp to continue using the project as a source of electricity for its customers.

In this Environmental Assessment (EA), we assess the impacts of: (1) issuing a new license for the project with measures proposed by PacifiCorp; (2) issuing a new license with various measures recommended by other

interested entities - federal and state resource agencies, the public, and the Commission staff; and (3) the no-action alternative.

B. Need for Power

The project is located in the Northwest Power Pool area of the Western Systems Coordinating Council. To consider the need for power, we looked at both PacifiCorp's need and the regional need for power. We've considered the short and long-term need for power generated by the project and the cost of alternative power if a new license is not issued. Our conclusions are as follows:

- Project power helps meet a small part of PacifiCorp's overall power needs.

- The project produces about 106 gigawatthours (GWh) of energy annually. Replacing project power would cost PacifiCorp about $4.33 million annually or 40.8 mills per kilowatthour (kWh), including dependable capacity credit for 3 months of each year.

Utah Power and Light Company (UP&L) is an operating utility system owned by PacifiCorp. The Cutler Project is part of UP&L's system, operating in the state of Utah. PacifiCorp's operation of electrical systems, including the operation of the project, is coordinated using guidelines prescribed by the regions' Northwest Power Planning Council (Council).

UP&L provides electric service to about 586,000 retail customers in a service area of about 63,000 square miles in parts of Utah, Wyoming, and Idaho. UP&L has an average annual energy requirement of about 55,603 GWh with net resources of 46,950 GWh - a deficit of 8,753 GWh. With an annual average generation of 106 GWh, the project meets a small part of UP&L's total requirement, helps to lower system deficits, reduces costs to ratepayers, and displaces some fossil-fueled generation.

To forecast the need for more resources, the Council subtracted existing resources (adjusted for any known additions or reductions) from the range of future electricity demand.

The Council forecasts that the region will need new resources sometime between 1995 and 2004 in the most likely medium scenario. The regional load and resource analysis is based on average conditions and doesn't represent any particular power supply sector or individual utility.

To see how other planning bodies in the region view load projections and the need for more resources, we looked at the latest load projections and needs analyses of the Bonneville Power Authority (BPA) and the Pacific Northwest Utilities Conference Committee (PNUCC). BPA shows that additional resources would be needed by 1994. PNUCC's 1993 regional firm energy loads and resources projections show resource deficits occurring sometime in 1993.

III. PROPOSED ACTION AND ALTERNATIVES

A. Applicant's Proposal

1. Project Description

The Cutler Project has been in continuous use since 1927. Figures 1 and 2 show the Cutler Project's principal features, including a view of the entire reservoir.

The existing features of the project include:

- A reservoir with a surface area of about 5,459 acres and storage of about 13,200 acre-feet at an elevation of 4,407.5 feet, mean sea level (msl).

- A concrete gravity arch dam, 545-foot-long by 109-feet-high with a spillway containing four 30-foot-wide by 14-foot-high radial gates, a 7-foot diameter low-level sluiceway located near the base of the dam controlled by a slide gate, an intake tower and cylinder gate with a maximum opening of 10 feet, and an 18-foot-diameter steel-lined conduit passing through the dam.

Figure 1. Principal Features of the Cutler Hydroelectric Project - Source (PacifiCorp, 1991).

Figure 2. View of Cutler Reservoir - Source (PacifiCorp, 1991)

- Two irrigation canal intakes, one located on each abutment of the dam, each controlled by 8-foot by 8-foot gates, two on the west intake and two on the east intake (one of which is not functional).

- A 1,160 foot-long by 18-foot-diameter steel penstock.

- An 81-foot-high by 45-foot-diameter steel surge tank.

- Two 112-foot-long by 14-foot-diameter steel penstocks that bifurcate from the surge tank into the powerhouse.

- A brick 60-foot by 123-foot powerhouse containing two generating units with a total installed capacity of 30 megawatts (MW), and appurtenant facilities.

- A 115 kilowatt (kW) emergency generator installed next to the surge tank.

PacifiCorp proposes to continue operating the project by diverting flows from the Bear River, and to use some of the storage capacity of the reservoir for peaking purposes when flow is available. The project produces about 106 GWh of electric energy annually which is used to serve customers in Utah. PacifiCorp owns and operates a system on the Bear River that includes the Cutler Project and five other hydroelectric projects.

2. Proposed Environmental Measures

To protect, mitigate continuing project impacts to, and enhance the environmental resources of the project area, PacifiCorp proposes to:

- Conduct a Bear River Basin study to aid in the development of new operating procedures for stabilizing reservoir elevations at the Cutler

Project in order to enhance waterfowl nesting, fish spawning, and recreational use.

- Establish a permanent vegetated buffer strip, up to 200 feet wide, on project lands adjacent to the reservoir between State Highway 30 and the State Highway 23 bridge to limit shoreline erosion, remove sediments and nutrients from runoff, and enhance wildlife habitat. The buffer proposal includes, within 3 years of issuance of a new license, to: (1) install up to 1.5 miles of gabions or riprap along the reservoir shoreline in this area; (2) stabilize an additional 2.0 miles of shoreline by planting deep-rooted shrubs and willows to reestablish vegetation; (3) reseed about 50.0 acres of tilled ground to create a grassland buffer strip; and (4) construct about 6.0 miles of fence to control cattle.

- Install four fish cover structures in the reservoir.

- Reduce impacts to spawning fish and waterfowl nesting by limiting reservoir water level fluctuations as an interim measure until completion of the above Bear River Basin Study.

- Modify existing leases and land use practices on about 4,500 acres of currently leased project lands. Leases would be rewritten on about 300 acres of currently tilled ground to provide food and cover for migratory waterfowl, and up to an additional 6 miles of fence to enhance wildlife habitat would be installed.

- Notify the Utah State Historic Preservation Officer (SHPO) if any historic sites are discovered during any maintenance or construction activities within the project area, and work with the SHPO to develop and install interpretive signs to describe the historical significance of the Cutler hydroelectric facilities.

- Enhance recreational opportunities by improving and enlarging the existing Benson marina, establishing seven new public access areas, constructing a walking trail, providing additional parking for hunters, and conducting a user survey.

- Incorporate the above proposals into a single resource management plan for all project lands.

3. Mandatory Requirements

There are no mandatory requirements, such as Section 18 fishway prescriptions, for this project.

B. Staff's Modification of Applicant's Proposal

In addition to PacifiCorp's proposed enhancement measures, we are recommending that a cultural resources management plan be developed and implemented for the project. The basis for this recommendation is in Section V.

C. No-action Alternative

Under the no-action alternative, the project would continue to operate under the terms and conditions of the existing license, and no environmental protection, mitigation, or enhancement measures would be implemented. We use this alternative to establish baseline environmental conditions for comparison with other alternatives. The alternative of license denial and project decommissioning is discussed below.

D. Alternatives Considered but Eliminated from Detailed Study

We considered several other alternatives to the applicant's relicensing proposal but eliminated them from detailed study because they are not reasonable in the circumstances of this case. They are: (1) federal takeover and operation of the project; (2) issuing a nonpower license; and (3) decommissioning the project.

We don't consider Federal takeover to be a reasonable alternative. Federal takeover and operation of the project would require Congressional approval. While that fact alone wouldn't preclude further consideration of this alternative, there is no evidence to indicate that Federal takeover should be recommended to Congress. No party has suggested Federal takeover would be appropriate and no federal agency has expressed an interest in operating the project.

Issuing a nonpower license wouldn't provide a long-term resolution of the issues presented. A nonpower license is a temporary license which the Commission will terminate whenever it determines that another governmental agency will assume regulatory authority and supervision over the lands and facilities covered by the nonpower license. In this case, no agency has suggested its willingness or ability to do so. No party has sought a nonpower license, and we have no basis for concluding that the project should no longer be used to produce power. Thus, a nonpower license is not a realistic alternative to relicensing in these circumstances.

Project decommissioning could be accomplished with or without dam removal. Either alternative would involve denial of the relicense application and surrender or termination of the existing license with appropriate conditions. No participant has suggested that dam removal would be appropriate in this case, and we have no basis for recommending it. Further, the reservoir is an important recreation resource, and would be needed for irrigation even if the project was not used to produce power. Thus, dam removal is not a reasonable alternative to relicensing the project with appropriate mitigation and enhancement measures.

The second decommissioning alternative would involve retaining the dam and disabling or removing
equipment used to generate power. Project works would remain in place and could be used for historic or other purposes. This would require us to identify another government agency willing and able to assume regulatory control and supervision of the remaining facilities. No agency has stepped forward, and no participant has advocated this alternative. Nor have we any

basis for recommending it. Because the power supplied by the project is needed, a source of replacement power would have to be identified. In these circumstances, we don't consider removal of the electric generating equipment to be a reasonable alternative.

IV. CONSULTATION AND COMPLIANCE

A. Agency Consultation

Commission regulations require applicants to consult with the appropriate resource agencies before filing a license application. Prefiling consultation initiates compliance with the National Environmental Policy Act, the Fish and Wildlife Coordination Act, the Endangered Species Act, the National Historic Preservation Act, and other federal statutes.

Prefiling consultation must be complete and documented for the application to be accepted 3. After acceptance, the Commission issues public notices and seeks formal comments in accordance with these statutes 4. All comments become part of the record and are considered during the staff's analysis of the proposed project. The following entities filed final comments on the application subsequent to the public notice that the application was Ready for Environmental Analysis. We address the environmental concerns raised in these letters in appropriate sections of the EA.

Commenting Entities	Date of Letter
Bear River Canal Company	September 10, 1993
U.S. Department of the Interior	September 9, 1993

B. Interventions

The American Whitewater Affiliation (AWA) and American Rivers (AR), Inc. filed a joint motion to intervene on August 17, 1992. The AWA and AR seek to protect the nondevelopmental values of the Bear River. They believe there are significant opportunities on the Bear River for enhancing fish, wildlife, and recreation resources. They are not opposing issuance of a new license.

The Bear River Canal Company (BRCC) filed an untimely motion to intervene on April 5, 1993. BRCC's motion was granted in a June 17, 1993, Commission notice. BRCC is concerned that operational changes at the project could affect water delivery for irrigation. The BRCC does not oppose relicensing the project.

3 The application for the Cutler Project was accepted on May 28, 1992.

4 On June 9, 1992, a public notice was issued setting a deadline of August 17, 1992, for filing motions to intervene. On July 13, 1993, a notice was issued setting a deadline for filing final comments and recommendations.

Mr. Paul Stewart filed an untimely motion to intervene on July 7, 1993, which was granted in a September 7, 1993, Commission notice. Mr. Stewart is a local farmer and owns land adjacent to the project reservoir. He is concerned about impacts to landowners that may occur from PacifiCorp's plans to enhance public access and wildlife habitat. Mr. Stewart does not oppose relicensing the project.

We address the environmental concerns raised in these motions to intervene in appropriate sections of the EA.

C. Comments on the Draft Environmental Assessment

Commenting Entities	Date of Letter
Bear River Canal Company	February 25, 1994
PacifiCorp	February 25, 1994
Mr. Paul Stewart	February 28, 1994

D. Water Quality Certification

On August 13, 1991, PacifiCorp applied to the Utah Department of Environmental Quality (DEQ) for a water quality certification for the project, as required by section 401 of the Clean Water Act. On November 20, 1991, the DEQ accepted PacifiCorp's request for a 401 water quality certification, certified compliance to applicable state water quality standards, and granted the certificate (letter from Don A. Oster, Executive Secretary, Utah State Water Quality Board to Jim Burruss, Senior Environmental Analyst, Utah Power, November 20, 1991).

V. ENVIRONMENTAL ANALYSIS

In this section, we describe the project setting and the river basin where it is located (the Affected Environment), and discuss impacts on individual environmental resources that would be affected by: (1) PacifiCorp's proposal; (2) alternatives for continued operation of the project; and (3) no-action. In addition to project-specific impacts, we analyze the potential for significant cumulative impacts to resources affected by the project and by other past, present, and reasonably foreseeable activities in the basin.

We focus our analysis on the Bear River Basin - the mainstem Bear River in particular, and have prepared a single-project EA in this case because: (1) the Cutler Project is the most downstream hydro project on the Bear River - dependent, to a great degree, on water releases from an unlicensed upstream storage reservoir (Bear Lake); (2) there are no other pending projects in this river basin; (3) there are no Threatened and Endangered (T&E) species or anadromous fish issues; and (4) the level of controversy on the proposed project is low. Unless specifically cited, the source of our information is PacifiCorp's application for a new license (PacifiCorp, 1991) and additional information filed on the application (PacifiCorp, 1993).

A. General Description of the Bear River Basin

The Bear River Basin is located in northern Utah, southeast Idaho, and southwest Wyoming. The basin drains about 6,900 square miles at its outlet on the Great Salt Lake.

The basin has an intermountain climate that is largely driven by topography. Mean annual precipitation varies with elevation; from about 40 inches in the mountains to around 10 inches at the lowest elevations. Most precipitation during October through April falls as snow. Summer thunderstorms are also very common in the basin and produce intense, flashy rainfall. Temperature variation is extreme, ranging from 40èF to 108èF. The mean annual temperature is about 45èF (Harza, 1983).

The Cutler Project is located in the Cache Valley of Utah between the Wasatch and Wellsville mountains. The dam is in Box Elder County, while most of the reservoir is in Cache County. The reservoir sits at the confluence of the Bear, Logan, and Little Bear Rivers.

Farming and grazing are the main land uses in Cache County. Hence, the County is rural in nature and as of the 1990 census had a population of about 70,000. The largest single employer is Utah State University in Logan. Cache County has the second highest birth rate in the state and its population is expected to increase significantly into the next century.

The Bear River is a managed system that includes storage reservoirs, diversion dams, canals, and hydroelectric plants. The river has historically been controlled for irrigation, power generation, recreation, fish and wildlife, and flood control.

There are six hydroelectric developments on the mainstem Bear River. From upstream to downstream, they are: Soda (FERC No. 20) - Last Chance (FERC No. 4580) - Grace (FERC No. 2401B) - Cove (FERC No. 2401A) - Oneida (FERC No. 472) - and Cutler (FERC No. 2420). All of these projects are licensed to PacifiCorp, and use flows supplemented by water releases from Bear Lake, a large, unlicensed, upstream storage reservoir.

There are an additional seven hydroelectric developments located on the Logan River, Blacksmith Fork, Mink Creek, and Paris Creek; Bear River tributaries. Figure 3 shows the spatial distribution, licensee, generating capacity, and license expiration year for each of the above projects.

From mid-June to mid-October, nearly all natural flow in the Bear River is diverted for irrigation. Supplemental flow comes from water stored in Bear Lake. About 118 entities have consumptive water rights on the mainstem Bear River between Bear Lake and the Great Salt Lake.

Overall, throughout the basin, about a third of the river flow is consumed for offstream uses, mostly for irrigation. About 10 percent of the total land area in the basin (420,000 acres) is irrigated by about 500 separate systems

(Harza, 1983). These systems are owned and operated by a variety of individuals and groups. Other land uses in the basin include: mining (0.5 percent); wetlands, lakes, and streams (5.0 percent); non-irrigated cropland (9.0 percent), and urban areas (1.0 percent). The balance of the land area, nearly 85 percent, is either National Forest or range (Harza, 1983).

B. Proposed Action and Action Alternatives

In the individual resource sections below, recommendations are made when the measure would not have a significant cost or impact on other resources. For those measures involving significant costs, or that would significantly impact other developmental or nondevelopmental resources, our recommendation is found in Section VII. We have not included a specific section on geology and soils since no significant new construction is being proposed. However, runoff, soil erosion and sedimentation control are addressed in several other resource sections. Likewise, aesthetic resources are discussed in the Recreation section.

1. Water Resources

Affected Environment: The Bear River is regulated for multiple uses including irrigation, power generation, recreation, fish and wildlife enhancement, and flood control. Flows in the Bear River are seasonally influenced by: (1) controlled releases from Bear Lake, a large, upper-basin storage reservoir; (2) hydropower projects; (3) the removal of large quantities of water for irrigation demands; and (4) entry of uncontrolled runoff from tributaries.

Figure 3. Existing FERC-licensed and exempted projects in the Bear River Basin.

Streamflow. The drainage area above the project is about 6,200 square miles. A USGS gaging station, near Collinston, Utah, (Station No. 10118000), located about 800 feet downstream from the Cutler powerhouse, was used to determine streamflow data for the project.

Based on historical flow records, the average annual flow downstream of the project is 1,674 cubic feet per second (cfs). The minimum recorded flow was 10 cfs on October 4, 1905, and the maximum flow of 12,700 cfs was recorded on February 20, 1986. Average historic monthly flows passing through the power plant range from about 400 cfs to 3,100 cfs and are lowest during August. Summer flows (July, August and September) in the project's 1,700-foot-long bypass reach vary widely with mean August flow in the bypass reach typically around 27 cfs. The minimum recorded leakage flow below the dam is 13 cfs.

A number of physical features impede the free flow of water through the Cutler reservoir. First, the lake is shallow - only about 25 percent of it is deeper than three feet. There are also bridges that cross it, sandbars in its lower reaches, a narrow canyon just above the dam, and marshy areas at various locations. In addition, an old dam, Wheelon dam, located about 1/2 mile upstream from the Cutler dam, was inundated when the Cutler Project was built.

These restrictions create a lag time which delays or dampens water level fluctuations between the upper end of the reservoir and the dam. In the upper or southern reach of the reservoir from the Benson Marina area (mid-reservoir)

to the marshy areas at the upper end of the reservoir, water elevations are especially difficult to control and predict. This is due to periodic high inflows from natural tributaries and because of hard-to-anticipate increases in direct irrigation draws from the reservoir.

Project Operation. The Cutler Project operates as a peaking project based on the availability of flows. When inflows to the reservoir are too low to keep an efficient load level on the generating units, water is stored, then released. However, only about the top 2.5 feet of the reservoir (measured at the dam) are used for storage. PacifiCorp manages the project in a semi-automatic mode. The generators are started and synchronized to the system manually by a local project operator. Once on line, the units are controlled remotely by a System Dispatcher in Salt Lake City. Operation of the project is affected by seasonal constraints as described below. There is currently no minimum flow required or provided in the bypass reach.

Irrigation Season. The irrigation season is from May 1 through October 31. During the season, the reservoir is held to within 1.5 feet of the 4,407.5-foot normal maximum pool elevation 90 percent of the time to facilitate direct pumping for irrigation from the reservoir and to accommodate sudden increases in irrigation demand that occur due to unexpected weather conditions or unexpected irrigation needs. Any extra inflow above that needed for irrigation is stored to maintain water elevations in the reservoir, and to permit efficient generation when water is available for release. During this period, the reservoir can drop below maximum pool because there is a 2 to 5-day time lag until upstream water releases, generally from Bear Lake, reach the project.

Winter Season. From late-December to mid-February, ice can form on the reservoir and in the river downstream of the project. During this period, the reservoir is held as constant as possible to prevent plugging of intakes and to prevent sudden increases in flow that can cause ice breakups and jams downstream.

Spring Runoff and Flood Season. Spring run-off can occur at the project anytime from mid-February to the end of June. It generally happens in two waves - when low elevation snow melts, and later when the high snowpack melts.

High flows also occur when there are heavy releases from Bear Lake concurrent with natural runoff upstream. The highest recorded flows have occurred from low-elevation snowmelts combined with heavy rains. During the spring, as much as 70 percent of the inflow into the project comes from uncontrolled flows from the Logan, Blacksmith Fork, Little Bear, Spring Creek, and Cub River tributaries. When inflows exceed irrigation demands and the plant capacity (3,900 cfs), the spillway gates at the dam are used to pass water.

Water Rights. Operation of the Bear River System is complex and is governed by two court decrees in Idaho and Utah; an interstate compact between Wyoming, Idaho, and Utah; state water rights laws; and long-standing irrigation contracts in Idaho and Utah. Major contract users are Bear River Canal Company, West Chache Irrigation Company, Cub River Irrigation Company, and Last Chance Canal. PacifiCorp must supply water upon demand to irrigators to meet seasonal irrigation requirements governed by these contractual

agreements. Contractual agreements bind PacifiCorp to supply 900 cfs upon demand to the Bear River Canal Company from May 1 to October 31 and 150 cfs from November 1 to April 30.

Water Quality. The water quality of Cutler reservoir is poor primarily due to land use practices on agricultural lands along the Bear River and surrounding the reservoir. The reservoir is rich in nutrients with high levels of phosphorus and nitrogen. The nutrient loading indicates that the reservoir has the capacity to be eutrophic. Sources of phosphorus and nitrogen include watershed runoff, non-point source pollution, and point source pollution (e.g. crop fields, pasture fields, feedlots, dairy barns, and the city of Logan Sewage Treatment Facility). Trace metals have also been found in reservoir water. The U.S. Fish and Wildlife Service (FWS) indicated during prefiling consultation that the concentration values of unionized ammonia with warm water conditions and pH values greater than 8.0 could be a limiting factor on the fishery (letter from Clark D. Johnson, Assistant Field Supervisor, Fish and Wildlife Service, Salt Lake City, Utah, November 4, 1991).

Physical parameters of the reservoir water are also affected by watershed runoff and extended water storage. PacifiCorp reports that a 1990 Ecosystems Research Institute study of reservoir water quality indicated very high total dissolved solids (ranging above 650 milligrams per liter (mg/l)) causing poor water clarity and limiting light penetration to about 1.5 meters throughout the reservoir. Low oxygen levels at times were also reported in the mid 1960's in the reservoir, but oxygen levels improved in water samples collected in 1990.

Environmental Impacts and Recommendations:

Irrigation Demands. The Bear River Canal Company is concerned that PacifiCorp's plan to stabilize reservoir elevations could affect its ability to supply water for irrigation. The Canal Company is responsible for the distribution of Bear River water for irrigation of lands in the Bear River Valley.

PacifiCorp is planning to stabilize reservoir levels, in part, to enhance the fishery by limiting reservoir fluctuations to 0.5 feet during the spring spawning season. Spawning season overlaps with the irrigation season during May and June. Irrigation needs, releases from Bear Lake, and tributary runoff make it difficult, however, for PacifiCorp to reduce reservoir fluctuations. Therefore, PacifiCorp proposes to conduct a 3-year Bear River Basin Study to develop new operating procedures for stabilizing reservoir elevations to benefit fish and wildlife resources, reduce shoreline erosion, and improve recreation opportunities.

Reservoir levels at the Cutler Project and various locations would be studied to develop a reservoir level relationship between several reservoir locations. The study would address the following water use demands: (1) irrigation; (2) flood control; (3) fish and wildlife; (4) recreation; and (5) power generation as well as the constraints of water rights, hydrologic variability, irrigation contracts, maintenance activities, and ice conditions.

The complex water demands at the Cutler Project make it uncertain whether, especially during dry years, reservoir levels could be further stabilized while maintaining enough water for irrigation. However, by law, PacifiCorp is bound by contractual agreements with irrigators to meet their water needs before using water for project purposes. PacifiCorp's proposed Bear River Basin Study would include developing a basin-wide irrigation call system to better anticipate changes in irrigation demand along the Bear River.

The Bear River Basin Study is further discussed in the Fishery Resources section, below.

Water Quality. Land use practices and shoreline management adjacent to and upstream of the reservoir have affected reservoir water quality. PacifiCorp proposes to establish an up to 200-foot-wide permanent vegetative buffer strip on project lands adjacent to the reservoir between State Highway 30 and the State Highway 23 bridge. As part of the buffer, PacifiCorp proposes, within 3 years of issuance of the license, to: (1) install up to 1.5 miles of gabions or riprap along the reservoir shoreline in this area; (2) stabilize an additional 2.0 miles of shoreline by planting deep-rooted shrubs and willows to reestablish vegetation; (3) reseed about 50.0 acres of tilled ground to create a grassland buffer strip; and (4) construct about 6.0 miles of fence to control cattle.

The FWS (letter from Clark D. Johnson, Assistant Field Supervisor, Fish and Wildlife Service, Salt Lake City, Utah, November 4, 1991) and the Utah Division of Water Resources (UDWR) (letter from Timothy H. Provan, Director, Utah Division of Wildlife Resources, Salt Lake City, Utah, November 7, 1991) support PacifiCorp's proposal to stabilize the shoreline.

PacifiCorp's proposed buffer zone would help reduce shoreline erosion and reduce the runoff of sediments and nutrients into the reservoir. We discuss the economic impact of providing the buffer zone in Section VI, and make our recommendation on this measure in Section VII.

Unavoidable Adverse Impacts: None

2. Fishery Resources

Affected Environment: Construction of the Cutler dam in the 1920's was a further alteration of the already regulated nature of the Bear River from its original, free-flowing nature; perpetuating a long-term change in river habitat. In the mid-1960's, fishery habitats in the Bear River and the lower reaches of the tributaries near Cutler reservoir were of poor quality from silt loads and pollution. Algae blooms were common and invertebrates were scarce. Cutler reservoir in 1962-1965 was described as a shallow silted reservoir with low production. The establishment of a recreational fishery was limited because of the reduction of habitat caused by water level fluctuations and dewatering from extensive irrigation withdrawals. Carp was the most abundant species in the reservoir along with some largemouth bass, black crappie, and black bullhead.

More recently, UDWR angler surveys conducted from 1986-88 found the black bullhead the primary species caught and also confirmed the presence of brown and rainbow trout (letter from Timothy H, Provan, Director, Utah Division of Wildlife Resources, Salt Lake City, Utah, April 28, 1989). PacifiCorp also conducted fish sampling on Cutler reservoir and major tributaries to the reservoir during the spring and summer of 1990. The survey found Cutler reservoir supporting a recreational warmwater fishery comprised primarily of carp, green sunfish, black bullhead, black crappie, largemouth bass, and channel catfish. PacifiCorp also found one brown trout in the reservoir in their studies. These fish represent migrants from upstream sources. Carp are still the most abundant species in number and biomass. The bulk of the recreational fishery is maintained by natural recruitment. There are no known endangered or rare fish species in the Cutler reservoir, nor are there any anadromous or migratory species present in the Bear River.

The fishery appears to be marginal - reflecting years of seasonal flow fluctuations. There is some fishing for carp and catfish in the tailrace area, but fishing is limited there because: (1) irrigation demands on the reservoir can cause situations when the project shuts down and no flow is released below the dam or powerhouse; and (2) over the years, the minimum leakage flow from the dam plus seasonal fluctuations in flows have reduced habitat in the stream below the project.

Environmental Impacts and Recommendations:

Minimum flows below the powerhouse. Irrigation has priority over all other water use at the Cutler Project. Irregular wet and dry weather cycles affecting control of water available for irrigation has precluded the requirement of continuous discharge of a minimum flow into the Bear River below the powerhouse. During some dry years, there is not enough flow available for generation during the summer irrigation season. Hence, PacifiCorp is not proposing a minimum flow below the project.

The resource agencies recognized the constraints placed on the project and did not request any instream flow study during prefiling consultation nor have they requested a minimum flow release below the project.

We, likewise, because of irrigation's priority and the need to stabilize reservoir fluctuations (discussed further below) don't recommend that a minimum flow be established downstream of the project powerhouse. We, instead, recommend that PacifiCorp concentrate their fish habitat improvement efforts on the reservoir.

Minimum Flows in the Bypass reach. PacifiCorp doesn't propose, nor does any party or agency recommend that a minimum flow be provided for the 1,700 foot-long bypass reach.

We realize that under the current operating scenario, except when the project spills, this reach receives only leakage flows from the dam. However, we have no evidence that the bypass has any unique or outstanding characteristics for fish habitat compared to other reaches nearby, or that the resource agencies give it any special consideration in management plans for the region. There is, however, interest in stabilizing reservoir

fluctuations. Providing a continuous minimum flow in the bypass is not feasible without drawing down the reservoir because of the dependence of available water on wet and dry weather cycles and the priority that irrigation use has. We, therefore, are not recommending that a minimum bypass flow be established. As we've said, we are recommending that PacifiCorp concentrate their fish habitat improvement efforts on the reservoir.

Reservoir Fluctuations. Reservoir fluctuations occur as a result of irrigation draws and power production. Such fluctuations have historically, and continue to impair fishery productivity in the reservoir. Fluctuating reservoir levels can cause stranding, loss of spawning sites, abandonment of nesting fish, and desiccation of fish spawn; all factors that can limit natural recruitment (Hunter, 1992). Fluctuations can also disrupt the aquatic invertebrate community, a prime food base for fish. Further, fluctuations can increase turbidity, erosion, and resuspension of sediments in the reservoir.

As we've said, PacifiCorp proposes to study ways, basinwide, to reduce fluctuation in Cutler reservoir. In the meantime, PacifiCorp would test a reservoir operation plan that would limit drawdowns during certain times of the year. The test would provide actual experience from which a final reservoir operating plan would be developed. The test would include the following water surface elevation ranges and time periods to enhance not only fish spawning, but waterfowl nesting, water quality, and waterfowl hunting.

Time Period	Reservoir Elevation (Feet)	Tolerance (Feet)	Percent of Time Goal Met
March 1 - June 15	4407.5 - 4407.0	ñ 0.25	95
June 15 - Sept. 30	4407.5 - 4406.5	ñ 0.25	95
Oct. 1 - Dec. 1	4407.5 - 4407.0	ñ 0.25	95
Dec. 2 - Feb. 28	4407.5 - 4406.0	+ 0.25 to - 0.50	90

Both the UDWR (letter from Timothy H, Provan, Director, Utah Division of Wildlife Resources, Salt Lake City, Utah, April 28, 1989) and the FWS (letter from Robert G. Ruesink, State Supervisor, Fish and Wildlife Service, Salt Lake City, Utah, April 25, 1989) support PacifiCorp's proposed measures to review project operations to reduce water level fluctuations and to enhance the fishery.

PacifiCorp's interim proposal to maintain reservoir water levels from March 1 to June 15, part of their proposed Bear River Basin study, would enhance the fishery, and seems reasonable provided it does not interfere with irrigation needs. The proposed Bear River Basin Study would be valuable in

determining basin-wide measures that could be taken to permanently reduce fluctuation in Cutler Reservoir, and should be required. Since they are such a large water user, the Bear River Canal Company should be consulted during the study's planning and implementation.

Fish Cover and Food Sources. PacifiCorp conducted fish habitat suitability studies in the reservoir in 1990. The studies indicated that a shortage of suitable cover and available fish food sources were limiting the fishery. Low macroinvertebrate densities in conjunction with poor water quality, and depth may limit the numbers and sizes of gamefish and undoubtedly affect the entire food chain in the reservoir.

To enhance fish habitat in Cutler reservoir, PacifiCorp proposes a number of activities. As previously discussed in the water quality section, PacifiCorp proposes shoreline erosion control measures that would also benefit the fishery by reducing sedimentation. To enhance the amount of open water fish cover, PacifiCorp proposes to cooperate with the UDWR in establishing four fish cover structures in the open water portion of the reservoir in the Benson Area.

The UDWR, (letter from Timothy H, Provan, Director, Utah Division of Wildlife Resources, Salt Lake City, Utah, April 28, 1989) indicates that open water cover is a limiting factor on the fishery in certain parts of the reservoir.

Fish cover provides protection and prey entrapment sites for fish as well as providing habitat for invertebrates and other fish food sources. There is little fish cover in the reservoir partially because the poor water quality limits light penetration and the development of submerged aquatic plants. The four structures proposed by PacifiCorp would provide cover for game and forage fish in an area where cover is needed. We discuss the economic impact of providing the fish cover structures in Section VI, and make our recommendation on this measure in Section VII.

Carp Control. During prefiling consultation, local anglers and conservation groups requested that something be done to reduce the number of carp in the reservoir. This issue was not, however, raised later during the consultation period, nor has it been raised since the application was filed.

The UDWR acknowledges that the large number of carp in the reservoir decrease rooted macrophytes and increase turbidity, but believe it would be infeasible to eradicate them from the reservoir (letter from Timothy H, Provan, Director, Utah Division of Wildlife Resources, Salt Lake City, Utah, April 28, 1989).

Shallow, turbid and nutrient-enriched water, conditions found in the Cutler reservoir, are the preferred habitat conditions for carp. These conditions are a result of water level fluctuations from irrigation, project operation, and pollution sources upriver. Therefore, the presence of carp is not solely due to project operation. However, PacifiCorp's proposed fish habitat enhancements (increasing the amount of fish cover, and stabilizing reservoir fluctuations to decrease the resuspension of sediments and reduce

impacts to spawning fish) would promote the growth of non-carp species.

Unavoidable Adverse Impacts: The lack of a minimum flow requirement would perpetuate a lasting reduction in river productivity below the project.

3. Terrestrial Resources

Affected Environment:

Vegetation. Construction of Cutler dam in the 1920's created a large, shallow reservoir with extensive emergent wetlands. Irrigation water supplied by the reservoir supports nearby agricultural land, in which birds and other wildlife forage.

The most prevalent vegetation type in the project area is bulrush/cattail emergent wetland, growing in up to 2 feet of water. Emergent wetland occupies 1,735 acres. Pasture is the second most prevalent vegetation type (1,314 acres), and cultivated fields of alfalfa or grains are the third most prevalent (653 acres).

Riparian vegetation along the reservoir consists of four vegetation types: (1) wet meadows; (2) mesic shrubs; (3) a willow/small tree association; and (4) a few stands of cottonwoods or other trees. Wet meadows, making up 421 acres of the project area, include reed canary grass, sedges, rushes, and pale spike rush. The mesic shrub vegetation type is made up of red-osier dogwood, Wood's rose, chokecherry, skunkbush, golden currant, and occasionally Rocky Mountain bigtooth maple. The willow/small tree vegetation type, making up 108 acres, is composed primarily of small willows, such as coyote willow, with other small trees such as Russian olive, green ash, and river hawthorn also present. There are a few large stands of Fremont cottonwood or Lombardy poplar.

Other vegetation types in the project area include xeric uplands on 11 acres of the slopes in and above the canyon in which Cutler dam is located. This upland vegetation is made up of juniper woodland or sagebrush and grasses.

Riparian vegetation in the Bear River Basin has been cumulatively impacted by hydroelectric projects, irrigation, agriculture, and industry. Before Cutler dam was built, the project area consisted of the floodplain for the Bear River and its tributaries, the Little Bear River, the Blacksmith Fork River, and the Logan River. Each river supported riparian vegetation. As we've said, constructing the dam created a large, irregularly shaped reservoir with a shoreline capable of supporting extensive riparian vegetation. Grazing and crop production, however, have prevented the growth of riparian vegetation on 2 miles of reservoir shoreline and have degraded riparian vegetation on 35 miles of shoreline (see table 3-14 of exhibit E).

Wildlife. Mule deer use portions of the project area in low numbers. Other mammal species are coyote, bobcat, red fox, porcupine, badger, mountain cottontail, striped skunk, beaver, muskrat, and mink. Upland parts of the project area support small populations of ring-necked pheasant. The sandhill

crane, an important nongame bird, feeds and nests in project wetlands.

Cutler reservoir and adjoining lands provide important habitat for waterfowl and other birds. The UDWR counted as many as 5,777 waterfowl in its 1983 mid-winter survey. Many bird species use the project area during their fall and spring migrations, while few species are permanent residents. Redheads, cinnamon teal, mallards, gadwalls, northern shovelers, pintails, and ruddy ducks are the most common breeding waterfowl. The reservoir's high turbidity, however, limits submerged aquatic vegetation and macroinvertebrate production, so duck breeding is low. The reservoir's Canada goose population has been increasing and has caused some crop damage. Besides waterfowl, there are colonies of white-faced ibis, black-crowned night heron, great blue heron, snowy egret, cattle egret, Forster's tern, and Franklin's gull.

Waterfowl in the Bear River Basin have been cumulatively impacted by agriculture, irrigation, hydroelectric projects, and industry. Construction of the reservoir and subsequent siltation resulted in a great increase in emergent wetland habitat for waterfowl. Production of ducks that feed on submerged aquatic vegetation and macroinvertebrates, however, is lower than would be expected because the quality of the water flowing into the reservoir has been degraded by agriculture and other uses.

Environmental Impacts and Recommendations:

Impact of Recreational Enhancement on Wetlands. PacifiCorp delineated wetlands that would be affected by eight proposed recreational developments. PacifiCorp found that the total area of impacted wetlands would be 0.98 acre. PacifiCorp proposes to mitigate this loss of wetlands. PacifiCorp says its mitigation measures could include bank stabilization, vegetation plantings, and cattle fences to enhance or create wetlands in the project area (PacifiCorp, 1993).

The FWS concurs with PacifiCorp's proposal to mitigate wetland losses. The UDWR says that the impacts to wildlife would be minimal and could be mitigated by enhancing lands within the project boundary. The UDWR asks to be involved in developing site plans and mitigative measures.

Wetland vegetation provides food and cover for birds, and other wildlife. Recreational enhancements would result in the permanent loss of 0.98 acre of wetland vegetation. PacifiCorp should replace any wetland vegetation removed due to construction of new recreational facilities.

The plan should include the following: (1) details of the final design of measures to replace the wetland habitat affected by recreational development, and to ensure that no more such vegetation is destroyed than is necessary to build the recreational facilities; and (2) a plan for monitoring the effectiveness of the measures to replace wetland habitat affected by the construction of the recreational facilities, which includes steps to be taken in the event the measures are not effective in protecting the wetland habitat, including, but not necessarily limited to, modifying the measures or establishing or enhancing additional wetland habitat. Implementing this plan would ensure that the site-specific and cumulative impacts of wetland habitat

loss on deer, birds, and other wildlife are minimized.

Wildlife enhancement. PacifiCorp proposes to develop a Resource Management Plan (RMP) to protect and enhance wildlife habitat, recreation, and the continuation of managed agricultural uses.

PacifiCorp has already developed specific proposals for the RMP for enhancing riparian areas and wildlife habitat north of State Highway 30. These measures include providing a vegetative buffer strip around parts of the reservoir, installing 6.0 miles of fence to keep livestock out of the buffer strip, and reseeding or replanting parts of the shoreline. PacifiCorp also proposes to reseed 300 acres of currently tilled land and install up to 6.0 miles of fence within 3 years after issuance of a new license.

The RMP would also contain the same kind of enhancement measures for project lands south of State Highway 30 that PacifiCorp has proposed for lands north of the highway. PacifiCorp would evaluate project lands that are currently farmed or grazed, and may take some lands out of production. PacifiCorp would install fences to exclude cattle during the growing season to allow pasture vegetation to grow and to provide cover for wildlife. PacifiCorp would seed currently tilled areas with native grasses to improve wildlife cover. In the RMP, PacifiCorp would identify lands of current or potential value to wildlife to be acquired, either through fee simple purchase or exchange, and included in the project boundary.

The UDWR supports PacifiCorp's proposal to develop the Resource Management Plan.

Unavoidable Adverse Impacts: Enhancement of project recreational facilities would result in the short-term loss of 0.98 acre of wetland habitat.

4. Threatened and Endangered Species

Affected Environment: The FWS says that the endangered bald eagle, peregrine falcon, and whooping crane, and the threatened Ute ladies'-tresses may occur in the project area (U.S. Fish and Wildlife Service, 1991).

Bald eagles winter in the Bear River Valley from November 15 through March 25. A 1987 survey found 16 eagles in the vicinity of Cutler reservoir (PacifiCorp, 1991). In the project area, eagles feed on waterfowl in the project's wetlands and roost in large cottonwoods near the reservoir.

Peregrine falcons have been seen around the reservoir (PacifiCorp, 1991). Most are probably falcons migrating through the area. Year-round observations of peregrine falcons, however, suggest that breeding pairs may reside year-round in Cache County. The canyon section of the reservoir near Cutler dam may provide suitable nesting habitat for falcons. Significant falcon activity, however, hasn't been observed in the canyon section.

Whooping cranes may use the project area during migration. One or two unverified sightings of whooping crane flyovers have been made in Cache County (PacifiCorp, 1991). Cranes haven't been seen in the project area.

Ute ladies'-tresses (Spiranthes diluvialis) may grow in the project area. The plant grows in seasonally moist soils and wet meadows near springs, lakes, or perennial streams and their associated flood plains. PacifiCorp did a survey for this plant in the riparian areas that would be disturbed by its proposed recreational enhancements (PacifiCorp, 1993). PacifiCorp found no Ute ladies'-tresses.

Environmental Impacts and Recommendations:

Bald eagle. Bald eagles forage in and around Cutler reservoir and perch in cottonwoods next to the reservoir during the winter. Relicensing the project wouldn't affect wintering bald eagle use of the project area. PacifiCorp's proposed fish and wildlife enhancements may slightly increase the amount of fish and waterfowl available as eagle prey. Cottonwoods grow at the Benson and Upper Bear River access sites, which PacifiCorp would enhance, but further development of these recreation sites wouldn't entail removing any cottonwoods (PacifiCorp, 1993). Bald eagles use the project during the winter when recreational use is low, so increased recreational use shouldn't disturb eagles.

Peregrine falcon. Peregrine falcon use of the project area is limited. Relicensing the project wouldn't affect falcon use of the project area. PacifiCorp's proposed wildlife enhancements may slightly increase the amount of birds available as falcon prey.

Whooping crane. No use of the project area by whooping cranes has been documented.

Finally, the project doesn't include an above-ground transmission line that could be a collision hazard to bald eagles, peregrine falcons, or whooping cranes. Therefore, relicensing the project wouldn't affect bald eagles, peregrine falcons, or whooping cranes.

The FWS concurs with PacifiCorp's determination of no effect for the Ute ladies'-tresses and all other federally listed threatened or endangered species (U.S. Fish and Wildlife Service, 1993).

Unavoidable Adverse Impacts: None

5. Cultural Resources

Affected Environment: In 1989, the Cutler dam and powerhouse were listed in the National Register of Historic Places (Register). The facility was constructed between 1924 and 1927, and has been in continuous use since 1927.

The facility has been subject to repairs and upgrading, but not enough to alter its historical integrity. Repairs and upgrading include overhauls and repairs of turbines and generators, rewinding of the generators, installation of remote controls, replacement of original transformers, and rehabilitation of the spillway.

Several archeological sites are located in the general project vicinity. No sites have been recorded in the immediate project area (Martin, 1989; PacifiCorp, 1991; Schirer, 1991).

Environmental Impacts and Recommendations: The SHPO says the project would not have an effect on the historical integrity of the Cutler dam and powerhouse or other cultural resources in the project area (Schirer, 1991).

We agree with this "no effect" determination, but not without more definitive consultation procedures and cultural resources management plans to:

(a) ensure that project maintenance and repair work does not affect the historical integrity of the Cutler dam and powerhouse; and (b) specify how archeological and historic sites discovered during project operation would be evaluated and protected.

Therefore, we recommend as a condition of any license issued for the project that PacifiCorp: (1) notify the SHPO of specific maintenance and repair work procedures at Cutler dam and powerhouse; (2) develop a cultural resources management plan for implementation of these procedures; (3) base the plan on the SHPO's recommendations and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; and (4) file the plan with the Commission for approval, together with a copy of a letter from the SHPO commenting on the plan, within 2 years after the date of any license issued for the project.

To protect any archeological or historic sites discovered during project operation, we recommend PacifiCorp: (1) consult with the SHPO; (2) prepare a cultural resources management plan and a schedule to evaluate the significance of the sites and to avoid or mitigate any impacts to Register eligible sites; (3) base the plan on recommendations of the SHPO and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation; (4) file the plan for Commission approval, together with the written comments of the SHPO; and (5) take the necessary steps to protect the discovered archeological or historic sites from further impact until notified by the Commission that all of these requirements have been satisfied.

The Commission may require changes to the cultural resources management plans based on the filings. PacifiCorp would not be allowed to implement a cultural resources management plan or begin any land-clearing or land-disturbing activities in the vicinity of any discovered sites until informed by the Commission that the requirements have been fulfilled.

Unavoidable Adverse Impacts: None.

6. Recreation

Affected Environment: Recreation resources have been cumulatively affected by hydropower development, irrigation, agriculture and industrial and residential development in the Bear River Basin. The construction of dams and diversions in the basin in the late 1800's and early 1900's resulted in the inundation of many miles of free-flowing river that once provided paddling and, probably, some whitewater boating opportunities. The impoundments, however, have also provided many lake-oriented recreation opportunities that would not exist otherwise. Lakes in the basin currently receive high use for a variety of activities.

Farming practices and a gradual increase in population throughout the basin have contributed to water quality problems which, as we've said, limit potential waterfowl production and, therefore, hunting and wildlife viewing opportunities. However, the increase in emergent vegetation in the basin from dam construction has probably been an overall benefit to waterfowl-based recreation. Today, the wetlands at the Cutler Project are the focal point for much of the recreation that occurs, as waterfowl hunting, and wildlife watching are important activities.

The most recent recreational use data for Cutler reservoir was collected in 1973. At that time, about 5,000 people were using the lake per year. PacifiCorp believes that the total number of visitors has increased since then, but that the proportion of use among the various activities has remained fairly stable.

Waterfowl hunting reportedly represents about half of the total use of the reservoir. Various species of ducks, geese, and swans are sought, with the best hunting areas being the southern reservoir and along the Bear, Little Bear, and Logan tributaries. Upland hunting for pheasants occurs on land currently in grain production. The number of hunters who use the reservoir each year has been estimated at somewhere between 930 and 3,660 since 1979. In addition to the migratory game species, birds such as the great blue heron, white-faced ibis, and snowy plover provide bird watching opportunities.

Although it's not considered a prime fishing resource, fishing does occur year-round on the reservoir. Largemouth bass, black crappie, and channel catfish are the main species sought. Some bow fishing for carp also occurs. Total fishing use is estimated at about 100 anglers per month. The reservoir is also used for water skiing and powerboating, but such use is limited to the deeper sections.

There is currently only one developed access facility on the impoundment, the Benson Marina site, which consists of a concrete boat launch, a picnic shelter, gravel parking lot, and portable toilet. PacifiCorp says this area is inadequately sized and in disrepair. Because of the lack of designated access facilities, visitors often park in and use areas on PacifiCorp property leased for agriculture, or on other private property. There are no permanent sanitary facilities on the reservoir. Hence, unauthorized use of private and leased lands by recreationists has created some conflicts with local landowners and leaseholders in the past.

Environmental Impacts and Recommendations: PacifiCorp is proposing a

major recreation access project at the reservoir that involves constructing seven new public boat access sites, canoe trails, signage, a loop trail, and interpretive facilities (see Figure 4). Two of the new boat access sites would be designed for powerboats, the rest for small boats and canoes. In addition, the existing Benson Marina site would be enlarged and upgraded, and an interpretive sign would be installed at the powerhouse.

Under PacifiCorp's plan, the Cutler Canyon, Cutler Marsh and Benson sites would have the most developed facilities and would be the focal points for recreation in the upper, middle and lower sections of the impoundment. Each of these areas would have a concrete boat launch, parking for from 15 to 40 vehicles, docks, and picnic and restroom facilities. The Benson area would be the largest and would include a loop trail for hiking, fishing, and wildlife viewing. Other sites (upper and Lower Benson, Little Bear River, Logan River, plus several small access areas) would be designed to accommodate non-motorized boating, hunting, and picnicking. Canoe trails in the southern, marshy areas of the reservoir would facilitate wildlife viewing and waterfowl hunting. Finally, to establish baseline data on recreational use of the lake, PacifiCorp would conduct a user survey.

Figure 4. Conceptual Plan for PacifiCorp's Proposed Recreation Facilities - Source (PacifiCorp, 1991)

All of the above recreation enhancements would be in place within 2 to 4 years of issuance of a new license for the project per the following schedule:

RECREATION AREA	COMPLETION SCHEDULE
Benson	2 years after license
Cutler Marsh	2 years after license
Cutler Canyon	2 years after license
Upper and Lower Benson	3 years after license
Clay Slough	3 years after license
User Survey	4 years after license

None of the agencies commented on PacifiCorp's recreation plan in response to the Commission's final notice on the application. However, comments from the agencies during prefiling, and in response to our additional information request, indicate that they support the plan. For instance, the Utah Department of Natural Resources, Division of Parks and Recreation (UDPR) states, in a November 5, 1991, letter, commenting on the draft application - "In conclusion, we feel the analysis was very well done, and conforms to the

objectives and professional planning processes recommended in the Utah State Comprehensive Outdoor Recreation Plan (SCORP); and has used the most recent SCORP data for the thorough analysis achieved". They also ask to be involved in the final design of the facilities.

The Utah Department of Natural Resources, Division of Wildlife Resources (UDWR), also commenting on the draft application, in a November 7, 1991, letter, states "We generally concur with PacifiCorp's proposals to develop and enhance recreational opportunities in the project area." They go on to emphasize that they are especially interested in a new access site being developed in the Cutler Canyon area, and that this should be a top priority. PacifiCorp subsequently included a Cutler Canyon access area in their final application as a priority item.

The FWS, in a May 28, 1993, letter, states that they believe the proposed recreational developments would have minor impacts on fish and wildlife, and that they would provide substantial recreational benefits.

The American Whitewater Affiliation requests, in an October 26, 1992, letter, that PacifiCorp allow the public to access the bypass reach for boating during naturally occurring high-flow periods.

Mr. Paul Stewart, an adjacent landowner and farmer, has the following requests regarding PacifiCorp's recreation proposals: (1) wants PacifiCorp to assume liability, where applicable, for damage to private property adjacent to Cutler reservoir caused from wildlife and sportsmen, including but not limited to damage to crops, vandalism, theft, fire, increased risk of accidental shootings resulting in fatalities or serious injury at or near private residences; (2) opposes the development of the "Potential Recreation Access" adjoining his property including fences, and also opposes the development of the "Potential for Improved Pheasant Hunting" at the property to the south of his home; and (3) wants PacifiCorp to locate nature trails away from private lands where negative impacts would be lessened.

Mr. Wayne Cardon, also a local farmer, supports PacifiCorp's proposal to upgrade boat launching facilities at the Benson Marina site, and to construct a new boat access area at Cutler Marsh. However, Mr. Cardon does not believe a nature trail is a good idea at the Benson site. He's concerned about: (1) potential cropland fires caused by careless users; and (2) increased traffic on narrow roads frequented by agricultural equipment.

Conclusion. Absent a current recreation use study, it is quite difficult to say how much use Cutler reservoir is attracting. However, long-term estimates of water-based recreation in the United States predict a compound annual growth rate of about 1.5% from 1977 through 2030 (Walsh, 1986). Applying this growth rate to Cutler from 1973 to 1993 would show use of the lake to currently be around 13,266 visitors. However, considering its size compared to other lakes in the region and the number of visitors they are attracting, Cutler could accommodate a much higher level of use. The only apparent impediment to public use of the reservoir is the lack of adequate access facilities. We believe the new facilities that PacifiCorp is proposing would encourage significant additional public use of the project area. Table

1 below shows current annual visitation at lakes with public access facilities within 50 miles of Cutler. As expected, the larger lakes, with more recreational development are attracting the most people. Average annual visitation per surface acre of water for these five lakes is 139.38. Assuming the proposed recreation facilities were developed at Cutler and using this regional average rate of participation per surface acre, the Cutler impoundment could
attract about 167,2565 visits. In addition, PacifiCorp's proposed buffer zone, habitat enhancements, and reservoir management plan, discussed above in Sections 1-4 would enhance the lake's aesthetics by limiting drawdowns, reducing soil erosion and sedimentation, and controlling grazing.

Table 1. Visitation levels at reservoirs within a 50 to 60 mile radius of the Cutler Project.

NAME	SURFACE ACRES	PROXIMITY	RECREATION FACILITIES AREA	ANNUAL VISITATION	CAPACITY USAGE
Causey	140	40 miles southeast	2 acres	20,248	Unknown
Bear	78,800	35 miles northeast	377 acres	300,000+	Unknown
Hyrum	475	15 miles south	40 acres	166,704	Reservoir use is at or near capacity.
Pinevi ew	2,870	50 miles south	200 acres	440,675	Reservoir use is at capacity and exceeded on some weekends.
Newton	280	5 miles north	2 acres	12,300	Reservoir use is near capacity.
Cutler	5,500 (1,200) [6]		2 acres	unknown	Used under capacity.

5 139.38 x 1,200 (surface acres at Cutler with a greater than three-foot depth) = 167,256.

6 Only 1,200 surface acres have a depth of greater than 3 feet.

The number, location, and variety of facilities proposed by PacifiCorp is reasonable given the size and branched nature of the lake and the different water depths and experiences available.

Regarding Mr. Stewart's concerns, there should actually be fewer instances of public encroachment on private land if the new facilities are constructed. Providing specific, designated areas for parking and access by foot or boat should effectively steer recreationists away from private lands. We do recommend, however, that PacifiCorp include in their plans, measures to ensure that the public uses only designated areas, and monitoring of use to address the concerns of adjacent landowners. However, there undoubtedly are some people who would still trespass. As long as they've been properly informed, which we see is the responsibility of PacifiCorp and private landowners, it's the individual who should be held responsible for his/her own actions. We're also reluctant to assign any liability to PacifiCorp for crop damage from waterfowl. We understand that waterfowl crop damage is a concern, and the proposed RMP would include measures to steer waterfowl away from croplands. Although we don't anticipate an increase, it's likely that there would still be some damage. However, whatever crop damage occurs due to waterfowl around the reservoir is probably minor when compared to the benefit of the crops being so close to irrigation water.

Regarding his concern about the areas of potential recreation enhancements, the nearest area to his home (about 0.5 mile away) is a proposed 5-car parking area for hunting access (see Figure 4 of the EA). No facility is currently planned for the potential access area that he is concerned about, nor is any facility proposed for the area on the opposite side of the lake from his home. We also note that all of the proposed recreation areas and access points are located within the project boundary. With proper management, the Benson access area and trail could be compatible with adjacent land uses. We do recommend, however, that final design drawings for the proposed facilities be prepared in consultation with the agencies and interested parties before filing the final recreation plan for Commission approval. We discuss the economic impact of providing the recreation enhancements in Section VI, and make our final recommendation on these measures in Section VII.

PacifiCorp's plan includes a policy of continuing to allow general public access to PacifiCorp land at the project area. Regarding allowing access to the bypass reach, PacifiCorp would maintain the existing locked gate and would provide limited public access upon request only. This should address the AWA's concern for access to the bypass reach since no specific facilities are being requested.

Unavoidable Adverse Impacts: Constructing PacifiCorp's proposed recreation facilities would impact 0.98 acres of wetlands. These impacts are discussed above in Section 3.

7. Land Use

Affected Environment: Primary land uses in the Bear River Multi-County Planning District (MCD), which includes Cache, Box Elder, and Rich counties, are agriculture, range, and forest. About 40 percent of the MCD is public land under state or federal ownership. This includes three national forests (Wasatch-Cache, Caribou, and Bridger), several state parks, national wildlife refuges on Great Salt and Bear Lakes, plus land under Bureau of Land Management or Department of Defense control. Cache Valley, however, where the project is located, is almost entirely under private ownership.

The regional economy is based on a mix of agriculture, manufacturing, government, and trade. In Cache and Box Elder counties, agriculture is the driving force, supporting food processing, dairying, and related industries. About 310,000 acres or 60 percent of Cache Valley is native vegetation that is used to graze sheep and cattle. The main cultivated crops include alfalfa, small grains, sugar beets, silage corn, and pasture.

PacifiCorp owns about 9,700 acres at the project site, mostly around the reservoir. Of this, about 5,500 acres consist of the reservoir itself. The balance includes about five square miles of wetlands on the south side of State Highway 30; upstream parcels along Clay Slough, and along the Bear, Logan, and Little Bear Rivers; plus land along the Bear River to a point about 3,500 feet downstream of the dam.

Of the land owned by PacifiCorp, about 5,107 acres are leased to 32 different parties. Just over 900 acres of this land is actually within the reservoir at normal high water. About a third of the total leased land is pasture, most of which is located around the southern shoreline. Fifteen percent is used for alfalfa and cereal grains. The remaining land is not currently being used for any specific purpose other than conservation. Land leases are renewed annually, and some have been held by the same party for 60 years. Most of the leases are either entirely or partially within the project boundary, but a few are entirely outside.

There are apparently few controls currently placed on leased lands as cattle have been allowed to graze and cultivation occurs up to the water's edge. This has adversely impacted native shoreline vegetation, wildlife habitat, and the reservoir fishery. A growing population of Canada geese has also caused some crop damage. Other land uses affecting the reservoir include dairies and stockyards along the Bear River upstream, and the city of Logan sewage treatment facility, which releases treated wastewater into the reservoir.

Environmental Impacts and Recommendations: Mr. Paul Stewart, an adjacent landowner and farmer, has the following additional concerns and requests regarding PacifiCorp's proposals: (1) he wants reservoir banks repaired and stabilized or purchased or traded without diminishing the private landowners' privacy or land values; and (2) he's concerned that efforts to maintain lake levels for the benefit of the fish will adversely affect the ability of farmers to water their crops.

PacifiCorp's proposed RMP would affect land use and would involve setting

goals and policies for managing the project area, along with specific measures for individual management units - geographic areas of the reservoir with similar terrain, wildlife habitat, and hydrological and land use conditions. The RMP would identify specific lands to be excluded or added to the project boundary either through fee simple purchase or exchange, and possibly condemnation. Lease fees and lengths of leases would be subject to change, and the recreation plan would be finalized in the RMP. Further, certain land use practices would be limited, such as pesticide and herbicide application. The result would be a shift away from the more intensive agricultural practices along the reservoir edge to habitat management, and recreation.

Regarding Mr. Stewart's concerns; conceptually, PacifiCorp's proposal includes stabilizing the reservoir shoreline via the buffer zone, and purchase or exchange of lands to be included in the project boundary. Specific concerns about particular parcels of land adjacent to the reservoir, however, should be addressed when the final RMP is being prepared. All interested entities should have the opportunity to participate in preparing the final RMP. No information has been presented that indicates that PacifiCorp's proposed reservoir fluctuation limits would adversely affect farmers' ability to water their crops. In fact, a more stable water regime should make it easier to draw water directly from the lake.

Current leaseholders would, however, be adversely affected if lease fees are increased, and if certain lands are no longer available for agriculture. However, if lease periods are lengthened, leasees would benefit from more operational certainty and would be better able to use long-term planning. Those who own land adjacent to the reservoir should benefit from PacifiCorp's plans for stabilizing reservoir fluctuations, stabilizing the shoreline, and purchasing some shoreline lands. We don't, however, find any justification for condemning any non-project lands.

Unavoidable Adverse Impacts: There could be some loss of agricultural productivity on lands adjacent to the reservoir.

C. No-action Alternative

Under the no-action alternative, the project would keep operating under an annual license. None of PacifiCorp's proposed enhancement measures would be required, unless voluntarily implemented. Public access to project waters would continue to be very limited, and the benefits of the shoreline buffer zone and RMP would not be realized. In effect, there would be no resulting changes to the existing environment. We do not believe this alternative is in the public interest.

VI. DEVELOPMENTAL ANALYSIS

The 30-MW project produces about 106 GWh of energy annually. With no minimum flow proposal for the bypass reach, the project would continue to produce about 106 GWh of energy annually. From our analysis, we find this annual energy generation for the project reasonable for the available flows in the Bear River.

In our economic analysis, we used PacifiCorp's assumptions of $6,500,000 net investment cost in 1991 dollars, $603,000 levelized annual operations and maintenance (O&M) costs, and 37.7 mills/kWh levelized energy value in 1991 dollars.

Due to the irrigation water rights of the Bear River Canal Company, which has its intakes above and below the Cutler dam, the project's dependable capacity of 30 MW is available only three months out of the year. In calculating the capacity value for the project, we used PacifiCorp's estimate of $92.56/kW per year (1991 dollars) and gave PacifiCorp credit for 25 percent of the dependable capacity value for the year.

Staff and the resource agencies have agreed with PacifiCorp's proposal and have proposed no other enhancement measures that would add significant costs to the project. Our analysis shows that the project would be economically beneficial over a new 30-year license period.

PacifiCorp estimates that their proposed environmental enhancement measures in section V.B. would cost about $751,000 with an additional cost of $55,000 a year for O&M. Individual costs for these measures are as follows:

MEASURE	CAPITAL COST	ANNUAL O&M
Fish Cover structures	$8,000 to $10,000	None
Buffer Zone	$200,000	$3,000 to $5,000
Wildlife Habitat	$50,000	$5,000 to $10,000
Resource Management Plan	$50,000	None
Recreation Facilities	$440,000[7]	$35,000 to $40,000

The total translates to a loss from the current 30-year levelized net annual benefits of about $221,600 or 2.1 mills/kWh. Even with this cost, the project would still be economical over a 30-year license.

VII. COMPREHENSIVE ANALYSIS AND RECOMMENDED ALTERNATIVE

Sections 4(e) and 10(a)(1) of the Act require the Commission to give equal consideration to all uses of the waterway on which the project is located. When deciding whether, and under what conditions, a hydropower license should be issued, the Commission must weigh the various economic and environmental tradeoffs involved for these uses. When possible, the benefits and costs of the various alternative uses of the project area are quantified.

7 The cost of the interpretive sign is estimated to be $500 to $1,000 dollars. No schedule has been proposed for its construction.

Based on our independent review and assessment of the proposed project, additional recommendations, and the no-action alternative, we have selected the proposed project with some minor additional measures as the preferred alternative. We recommend this alternative because: (1) issuing a new license would allow PacifiCorp to continue to make electric power from this renewable resource available to their customers while conserving nonrenewable fossil fuels; and (2) the recommended environmental enhancement measures would improve fish and wildlife habitat and increase public use of the project area.

Our recommended alternative includes the following environmental enhancement measures:

ù Conduct a Bear River Basin study to aid in the development of new operating procedures for stabilizing reservoir elevations in Cutler Reservoir.

ù Enhance fish spawning, waterfowl nesting, water quality, and waterfowl hunting by limiting reservoir water level fluctuations via a test reservoir operating plan. This would be an interim measure as a part of the Bear River Basin Study.

ù Install four fish cover structures in the reservoir.

ù Replace the 1.0 acre of wetlands that would be lost from new recreation facility impacts.

ù Combine PacifiCorp's proposed buffer zone, wildlife habitat and recreation enhancements, and resource management plan (RMP) into a single RMP for the project, and require consultation with local leaseholders and landowners when preparing the RMP to lessen or avoid impacts on agriculture and landowners.

ù Install an interpretive sign at the powerhouse.

ù Prepare and implement a cultural resources management plan.

The fish cover structures, the buffer zone and related wildlife habitat enhancements, and the recreation facilities would all involve significant costs. The basis for our recommending these measures is as follows.

Fish Cover Structures

The four structures proposed by PacifiCorp would provide cover for game and forage fish in an area where cover is needed. We believe that the increase in fish habitat that would result would lead to increased public use of the reservoir fishery such that the $8,000 to $10,000 cost would be balanced by at least as much public benefits over the term of the license. Therefore, we recommend that PacifiCorp prepare a plan for installing the proposed fish cover structures in consultation with the UDWR and the FWS.

Vegetative Buffer Zone, Wildlife Habitat Enhancement, and Management Plans

PacifiCorp would develop a Resource Management Plan (RMP) to protect and enhance wildlife habitat, recreation, and the continuation of managed

agricultural uses at the project. PacifiCorp has proposed a number of specific measures to enhance riparian areas and wildlife habitat north of State Highway 30. The RMP would also contain the same kind of enhancement measures for all project lands south of State Highway 30.

PacifiCorp's proposed measures for lands north of State Highway 30 and south of the highway (RMP) would enhance wildlife habitat. The buffer strip and seeded areas would provide food and cover for waterfowl and other wildlife. Also, the buffer strip would assist in reducing shoreline erosion and removing sediment and nutrients from sheet runoff, which would improve water clarity and may ultimately increase duck production. Including similar management techniques in the RMP, as PacifiCorp proposes, would enhance wildlife habitat south of State Highway 30. Enhancing project wildlife habitat would offset, in part, the cumulative impacts that agriculture, irrigation, hydroelectric projects, and industry have had on waterfowl in the Bear River Basin.

We believe the public benefits that would accrue over the term of a new license through increased public use of the project area as a result of these measures (buffer zone - $200,000; habitat enhancements - $50,000; RMP - $50,000) justifies their cost. Therefore, PacifiCorp should prepare a final RMP that includes the location and final design of the proposed measures for the buffer zone and wildlife habitat enhancements.

Recreation Enhancements

There is an obvious need for additional, designated public access on the project reservoir. The lake is large, and is a significant resource very near a major population center. Further, this area of Utah has a growing population and many other lakes in this region are being used at near-capacity levels. PacifiCorp's proposed recreation developments would greatly enhance public access to the Cutler reservoir, and should lead to significantly greater use of the project area such that the $440,000 cost is justified. We discuss the expected increase in use below, and in Section V.

Conclusion

As we've said, fish and wildlife resources, water quality, and recreation would be enhanced under PacifiCorp's proposal. We've generally adopted, as have the resource agencies, PacifiCorp's proposal. The only changes that we would make is to require that a cultural resources management plan be prepared and implemented for the project.

Because this measure wouldn't add a significant cost to PacifiCorp's proposal, we haven't added any extra cost to our analysis. Finally, we have used PacifiCorp's cost estimates for their proposed enhancement measures in our analysis. Where a range was provide (for example $5,000-$10,000), we have used the higher number. We have dismissed the no-action alternative, because it would not allow for any environmental enhancement measures.

The combined cost for PacifiCorp's proposed enhancement measures for the project is $751,000, plus $55,000 per year for O&M. This equates to an

average annual net cost, over the term of a 30-year license of $221,600. The table below shows the impact that this cost would have on the project's economics.

Table 1. Impact of the recommended alternative on project economics.

	Net Annual Benefit in Dollars	Net annual Benefit in mills/kWh
Current Project	$4,326,300	40.81
Recommended Alternative	$4,104,700	38.72

We believe the public benefits from our recommended alternative justify the cost to the project. First, over 50 percent of the annual cost would be from the proposed recreation enhancements. The potential exists for the lake to attract over 150,000 annual recreation visits, based on current use data from other lakes in the region. The majority of these users would be viewing wildlife, hunting waterfowl, fishing, and boating.

Walsh (1986), reviewed 62 studies that estimated the economic value of a range of outdoor recreation activities. The average value of a recreation day over all activities was $13.00. In order to justify the additional annual cost of $221,600 for all of our recommended enhancement measures, just over 17,000 additional people per year would have to use the Cutler project over the term of a 30-year license (17,046 x $13.00 = $221,598). We believe that this level of growth is attainable and could go much higher. We, therefore, find that issuing a new license for the Cutler project, with PacifiCorp's proposed enhancements, and our minor additions, would be in the public interest. This alternative, which allows for the continued production of a renewable energy resource, would best adapt the project to a comprehensive plan for improving, developing, or conserving the Bear River.

VIII. RECOMMENDATIONS OF FISH AND WILDLIFE AGENCIES

No fish and wildlife agency recommendations were filed for the project in response to our notice that the application was ready for environmental analysis.

IX. CONSISTENCY WITH COMPREHENSIVE PLANS

Section 10(a)(2) of the Act requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.

Under Section 10(a)(2), federal and state agencies filed five plans that address various resources in Utah. Four plans are relevant to this project 8. No conflicts were found.

X. FINDING OF NO SIGNIFICANT IMPACT

In this EA, we find that issuing a new license for the project would not significantly adversely affect the resources identified for analysis, and would enhance fish, terrestrial, wildlife, water quality, aesthetics, and recreation resources. The only unavoidable adverse impacts would be an adverse impact on 0.98 acres of wetlands due to the proposed recreation facilities, and a probable loss of agricultural productivity on some lands adjacent to the project reservoir. We conclude that issuing a new license for the project would not be a major federal action significantly affecting the human environment. Therefore, an Environmental Impact Statement is not required.

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XII. LIST OF PREPARERS

Vince Yearick - EA Coordinator, Recreation and Land Use (Environmental Protection Specialist; M.S., Recreation and Parks)

Susan Cielinski - Water and Fishery Resources (Fishery Biologist; M.S., Fisheries, Aquaculture and Pathology)

Kim Nguyen - Developmental Analysis (Civil Engineer; B.S., Civil Engineering)

Dianne Rodman - Terrestrial Resources and Threatened and Endangered Species (Ecologist; M.S., Biology).

Edwin Slatter - Cultural Resources (Archeologist; Ph.D., Anthropology)

APPENDIX A - Comments on the Draft Environmental Assessment and Staff Responses

Hydropower Licensing

ATTACHMENT 3b

UNITED STATES OF AMERICA 99 FERC 62,085
FEDERAL ENERGY REGULATORY COMMISSION

Pacificorp Project No. 2420-018

ORDER MODIFYING AND APPROVING PROJECT OPERATION PLAN PER ARTICLE 401

(Issued April 30, 2002)

On October 4, 1999 and supplemented on April 11, 2002, Pacificorp (licensee) filed a "Three Year Bear River Basin Study" and an "Operational Plan" for the Cutler Hydroelectric Project (FERC No. 2420) per license article 401. The Cutler Project is located on the Bear River in Cache and Box Elder Counties, Utah. This order discusses the licensee's study and plan and approves the operation plan with minor modifications.

LICENSE REQUIREMENT

Article 401 requires the licensee to submit for Commission approval, a plan for conducting a three-year Bear River Basin Study as proposed in the license application. The study plan is required to include: (1) the development of a basin-wide irrigation call system that includes irrigation companies and individual irrigators; (2) the development of an operational model to provide a statistical method for improving the operation of the Bear River system; (3) an assessment of reservoir levels at specific locations to develop a reservoir level relationship between each location; (4) the testing of a one-year operational plan to control Cutler Reservoir fluctuations from mid-reservoir (near Benson Marina) to the south end of the reservoir while maintaining the current irrigation supply; (5) the development of a final Cutler Reservoir operating plan that best meets the needs of wildlife, recreation, power generation, and irrigation based on meteorology, runoff and seasonal power requirements; and (6) a schedule for implementing the study, consulting with the appropriate agencies and interested parties, and filing the results in a final report.

The licensee developed and filed with the Commission, a Bear River study plan per article 401. The licensee's study was approved March 30, 1995 by Order Modifying And Approving Three-Year Bear River Basin Study Plan.[1] The licensee's filings of the results of the Bear River Study indicates that it has adequately fulfilled the requirements of article 401. The licensee used the information learned in the Bear River study to develop its Operation Plan, which is the focus of this order.

[1] 70 FERC 62,209 (1995).

BACKGROUND

The Cutler reservoir is located at the confluence of the Bear, Logan, and Little Bear Rivers in northern Utah. There are six hydroelectric projects on the mainstem Bear River. Of the six projects, the Cutler Project is the farthest development downstream. From mid-June to mid-October, nearly all the natural flow in the Bear River is diverted for irrigation. Supplemental flows come from water releases from Bear Lake, a large storage reservoir.

The Cutler reservoir has a surface area of approximately 5,500 acres. At the time of relicensing in the early 1990's, comments from the resource agencies suggested that minimizing reservoir fluctuations in the area south of Benson Marina would benefit fish and wildlife resources, reduce soil and shoreline erosion and improve recreational opportunities. Irrigation needs, releases from Bear Lake, and runoff from large tributaries complicate management of the lake levels. As a result of the agencies' comments, the licensee proposed in its license application as adopted in article 401, a three-year study to determine the feasibility of new operating procedures that would help stabilize the reservoir elevations. The licensee completed its three-year study and developed a final operating plan for the project.

THE LICENSEE'S PROPOSED OPERATION PLAN

The licensee stated that the project is operated in a semi-automatic mode whereby the generators are started and synchronized to the system manually by the local hydro operator. The licensee added that once on-line, the units are controlled remotely by the System Dispatcher, located in Salt Lake City, who controls the load on the generators to meet system requirements and to stay within the reservoir elevation guidelines.

The licensee identified a number of sources of inflow to the reservoir such as flows from the upstream projects on the Bear River, the Cub, Logan, Black Smith and Little Bear Rivers, plus precipitation and irrigation returns. Outflow sources from the Cutler reservoir include generation, evaporation, irrigation and pumping. Of these, the licensee stated that it controls only the outflow at the dam, and only reservoir inflow from the upstream project which has a lag time of 36 hours. In order to minimize Cutler reservoir elevation fluctuations, the licensee developed an operation plan that proposes to maintain the reservoir elevation within target ranges as measured at the Cutler dam.

The licensee stated that the reservoir elevation monitoring equipment located at the dam does not necessarily depict the water surface elevation throughout the reservoir. The licensee stated that there are a number of physical restrictions in the

reservoir that impede the flow of water through the reservoir such as highway and railroad bridges across the reservoir, sandbars in the lower reach of the reservoir, marshy areas, a narrow canyon just above the dam, and the submerged Wheelon Dam located approximately « mile upstream of the Cutler Dam. The Wheelon Dam was constructed for power generation and to divert water for irrigation, but was never breached when the Cutler Dam was built. It is completely inundated by the Cutler impoundment; however it does effect water surface elevations between the upper end of the reservoir and the dam.

The licensee explained that drawing down the reservoir four feet at the dam for a sustained period results in approximately a four foot drawdown in most areas of the reservoir. However, if the reservoir is drawdown more than four feet at the dam (ie. for maintenance purposes), the impact on the upper reaches of the reservoir is less because of the submerged Wheelon Dam.

The licensee stated that the principle area of environmental concern with respect to water level fluctuation is the upper reach of the reservoir, from the Benson Marina (mid-reservoir) to the marshy areas in the south end of the reservoir. The licensee added that the water elevation in this area is difficult to control due to inflow from the tributaries or sudden increases in irrigation demands from the tributaries and Bear River. The licensee stated that these factors are beyond their control and difficult to predict. The licensee, therefore, proposed the following operating ranges, as measured and recorded at the Cutler Dam.

Table 1. Proposed Reservoir elevation operating range as measured at the Cutler Dam

Time Period	Operating Range (Elevation in feet)	Tolerance (feet)	Target Percentage
March 1 through June 15	4407.5 to 4406.5	+.25, -.25	95%
June 15 through September 30	4407.5 to 4406.5	+.25, -.25	95%
October 1 through December 1	4407.5 to 4406.5	+.25, -.25	95%
December 2 through February 28	4407.5 to 4406.0	+.25, -.50	90%

The licensee proposed to monitor the operation of the project and annually file a report, with the Commission, concerning compliance with the daily average elevation requirements. The licensee indicated that exceptions to the target ranges may be necessary during times of project maintenance or when flood conditions exist.

CONSULTATION

Article 401required the licensee to prepare the operating plan after consultation with the Utah Division of Wildlife Resources, the U.S. Fish and Wildlife Service (FWS), and area irrigators, including the Bear River Canal Company. By letter dated July 12, 1999, the licensee provided the "Three-Year Bear River Basin Study" and the "Operation Plan" to the resource agencies and local irrigators for their review and comments. The licensee received comments from the FWS by letter dated August 2, 1999.

The FWS commended the licensee for their work. The FWS highlighted the studies and stated that through monitoring and annual reporting, the project will benefit fish and wildlife resources, reduce soil and shoreline erosion, and improve recreational opportunities. No other comments were received.

DISCUSSION

As part of the three-year Bear River study, the licensee developed a basin wide irrigation call system to help schedule and coordinate water deliveries, a hydrologic operational model to improve the predictive capabilities of available water, an assessment of reservoir levels to determine reservoir responses to seasonal changes at various locations around Cutler reservoir, and a test operating plan that encompassed four time periods associated with varying demands by water users.

The results of the study and the test operating plan indicate that the licensee has limited control of both inflow to the project and outflow from the reservoir. Because of the hydraulic limitations, the licensee indicated that the only way to minimize reservoir fluctuations is to limit the reservoir elevation range at the Cutler dam. The licensee's tests show that there is no predictable relationship between the dam and Benson Marina elevations making it unfeasible to operate the dam based on real time data from the Benson Marina. Based on the results of the Bear River Study and the test operating plan, the licensee modified the reservoir elevation ranges.

Since filing of the proposed operation plan, the licensee has operated the project using the proposed reservoir ranges. Supplemental data from 1999 to 2001 indicate that the licensee has been capable of complying with the operating plan. In fact,

during water year 2000-2001, the data indicate that the licensee kept fluctuations of the reservoir elevation to less than one foot.

Although Table 1 depicts four time periods (which are repeated from the test operating plan), the proposed reservoir elevation operating plan essentially has two time periods: March 1 through December 1; and December 2 through February 28. The operational range for March 1 through December 1 is one foot (4406.5 feet to 4407.5 feet) and the operating range for December 2 through February 28 is one foot, six inches (4406. feet to 4407.5 feet).

The licensee explained that the "tolerance range" is an area above and below the operating range where the licensee would still be considered to be in compliance with the requirement as the licensee continue to work to bring the reservoir level back within the operating range. Thus, for the March 1 through December 1 period, the total operating range would be one foot, six inches, and for December 2 through February 28, the operating range would be two feet, three inches. Table 2 illustrates the licensee's proposed operating range.

Table 2. Licensee's condensed reservoir elevation operating range table

Time Period	Operating Range (Elevation in feet)	Tolerance (feet)	Target Percentage
March 1 through December 1	4407.5 to 4406.5	+.25, -.25	95%
December 2 through February 28	4407.5 to 4406.0	+.25, -.50	90%

The heading, "Target Percentage" represents the percentage of time the licensee anticipates maintaining the reservoir level within the operating range including the tolerance band. The licensee explained that various factors, within and not within its control (such as maintenance and irrigation returns), may occasionally contribute to exceedances of the requirement.

If the Cutler reservoir elevation, as measured by the Cutler dam gage, exceeds the total, upper or lower operating range (operating range plus tolerance range) as approved in this order under article 401, the licensee should file a report with the Commission within 30 days of the incident. The report should, to the extent possible, identify the cause, severity, and duration of the incident, and any observed or reported adverse environmental impacts resulting from the incident. The report

should also include: 1) operational data necessary to determine compliance with the operating range requirement; 2) a description of any corrective measures implemented at the time of the occurrence and the measures implemented or proposed to ensure that similar incidents do not recur; and 3) comments or correspondence, if any, received from the resource agencies or other interested parties regarding the incident. Based on the report and the Commission's evaluation of the incident, the Commission should reserve the right to require modifications to project facilities and operations to ensure future compliance.

If the licensee draws down the reservoir for project maintenance, license compliance work or when flood conditions exists, the licensee is still responsible to file a report with the Commission. Any intentional reservoir drawdown should be in accordance with all Commission rules and regulations governing such actions.

The licensee indicated that it would file daily average elevations from the Cutler dam gage with the Commission annually. The licensee, however, did not identify a date by which it would file its reports. Since the licensee collects the data on a wateryear basis (October 1 through September 30), the licensee should file its report by December 31 (three months after completing the collection of the data). The data may be in chart form, and the report should minimally include explanations of any previously unreported deviations, a summary of compliance with the operating range, and any problems or proposed changes regarding the operating plan. The licensee should also make the data and report available to the resource agencies upon request.

The licensee's plan should also be modified to specify the operating range during leap years. Since the change in the operating range occurs at the end of February each year, the "time period" of December 2 through February 28 should be modified to include February 29 during the years when there are 29 days in February.

CONCLUSION

In order to meet the needs of wildlife, recreation, power generation and irrigation through operation of the project, the licensee had numerous inflow and outflow factors to consider when developing an operating plan. After completing a three year Bear River basin study, the licensee developed an operating plan that should minimize fluctuations of the Cutler reservoir. The plan attempts to balance the various demands of the different user groups.

Generally, from December through February, there are no operating constraints such as irrigation, spawning, nesting, or hunting that restrict the licensee's use of the reservoir for generation. Therefore, the licensee proposed a wider operating

range to increase generating options while keeping fluctuations to a minimum for management of ice conditions. The licensee's Operating Plan meets the needs of wildlife, recreation, power generation, and irrigation based on meterology, runoff and seasonal power requirements, as stipulated in article 401, and should, as modified, be approved.

The Director Orders:

(A) Pacificorp's Operational Plan for the Cutler Hydroelectric Project (FERC No. 2420), filed October 4, 1999 and supplemented on April 11, 2002, as modified in paragraphs (B) through (D), is approved.

(B) The licensee shall file an annual report of the daily average reservoir elevations for the Cutler Project, with the Commission, by December 31 (three months after completing the collection of wateryear data). The licensee shall make the report available to the resource agencies upon request.

(C) The operating range during the time period of December 2 through February 28 shall be modified to include February 29 during leap years.

(D) If the Cutler reservoir elevation, as measured by the Cutler dam gage, exceeds either the total, upper or lower operating range (operating range plus tolerance range) as approved in this order under article 401, the licensee shall file a report with the Commission within 30 days of the incident. The report shall, to the extent possible, identify the cause, severity, and duration of the incident, and any observed or reported adverse environmental impacts resulting from the incident. The report shall also include: 1) operational data necessary to determine compliance with the operating range requirement; 2) a description of any corrective measures implemented at the time of the occurrence and the measures implemented or proposed to ensure that similar incidents do not recur; and 3) comments or correspondence, if any, received from the resource agencies or other interested parties regarding the incident. Based on the report and the Commission's evaluation of the incident, the Commission reserves the right to require modifications to project facilities and operations to ensure future compliance.

(E) This order constitutes final agency action. Requests for rehearing by the Commission may be filed within 30 days of the date of issuance of this order, pursuant to 18 C.F.R. 385.713.

George H. Taylor
Chief, Biological Resources Branch

Division of Hydropower
Administration and Compliance

ATTACHMENT 3c

PACIFICORP ENERGY
A DIVISION OF PACIFICORP

825 NE Multnomah, Suite 1500
Portland, Oregon 97232

Electronically filed October 3, 2014

Douglas L. Johnson, PE, Regional Engineer
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, OR 97205

Subject: Cutler Hydroelectric Project, FERC No. P-2420
Cutler Spillway Gate Rehabilitation Project
Documentation of Coordination for the 2014 Cutler Reservoir Drawdown

Dear Mr. Johnson:

Per your October 16, 2013 letter, documentation of coordination with appropriate agencies is to be submitted to the Federal Energy Regulatory Commission (FERC) with a request for approval of a reservoir drawdown. PacifiCorp Energy has coordinated with the appropriate parties for the Cutler Dam Spillway Gate Rehabilitation Project, and is submitting proof of coordination with this letter. PacifiCorp Energy is also requesting approval for the drawdown of the Cutler Reservoir starting October 20, 2014. This drawdown is scheduled to extend no later than mid-January 2015.

The agencies and stake holders involved are the U.S. Fish and Wildlife Service (USFWS), the Utah Division of Wildlife Resources (UDWR), the Bear River Small Irrigator's Association (BRSIA), and the Bear River Canal Company (BRCC). Written response has been received from all except Mr. Paul Abate of USFWS. However, in phone conversations between Eve Davies and Mr. Abate on August 28, 2014 and again on September 9, 2014, Mr. Abate indicated that he has no concerns with the proposed drawdown. We will continue to request a written reply from him, and will submit it once obtained.

This letter and its enclosures have been filed electronically. The security classification of each component in this packet is shown in the Enclosure list below. According to FERC eFiling requirements, two complete printed copies of this filing have been transmitted to your office. If you have any questions concerning these documents, please contact Eve Davies (Principal Scientist) at 801-220-2245, or Stewart Edwards (Project Manager) at 801-220-4635.

Sincerely,

Mark A. Sturtevant
Managing Director, Hydro Resources

MAS: SDE: ED: BW: dldt

Encl: Letter – Public
Consultation Notifications and Responses - Public

The security classification of each enclosed document is identified in the Enclosure Chart.
If identified as Privileged, Protected or Critical Energy Infrastructure Information (CEII), DO NOT RELEASE.

eFile: Douglas L. Johnson, PE
Regional Engineer, FERC-PRO
Via eLibrary at www.ferc.gov

hc: Douglas L. Johnson, PE, Regional Engineer
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, OR 97205

Edwards, Stewart

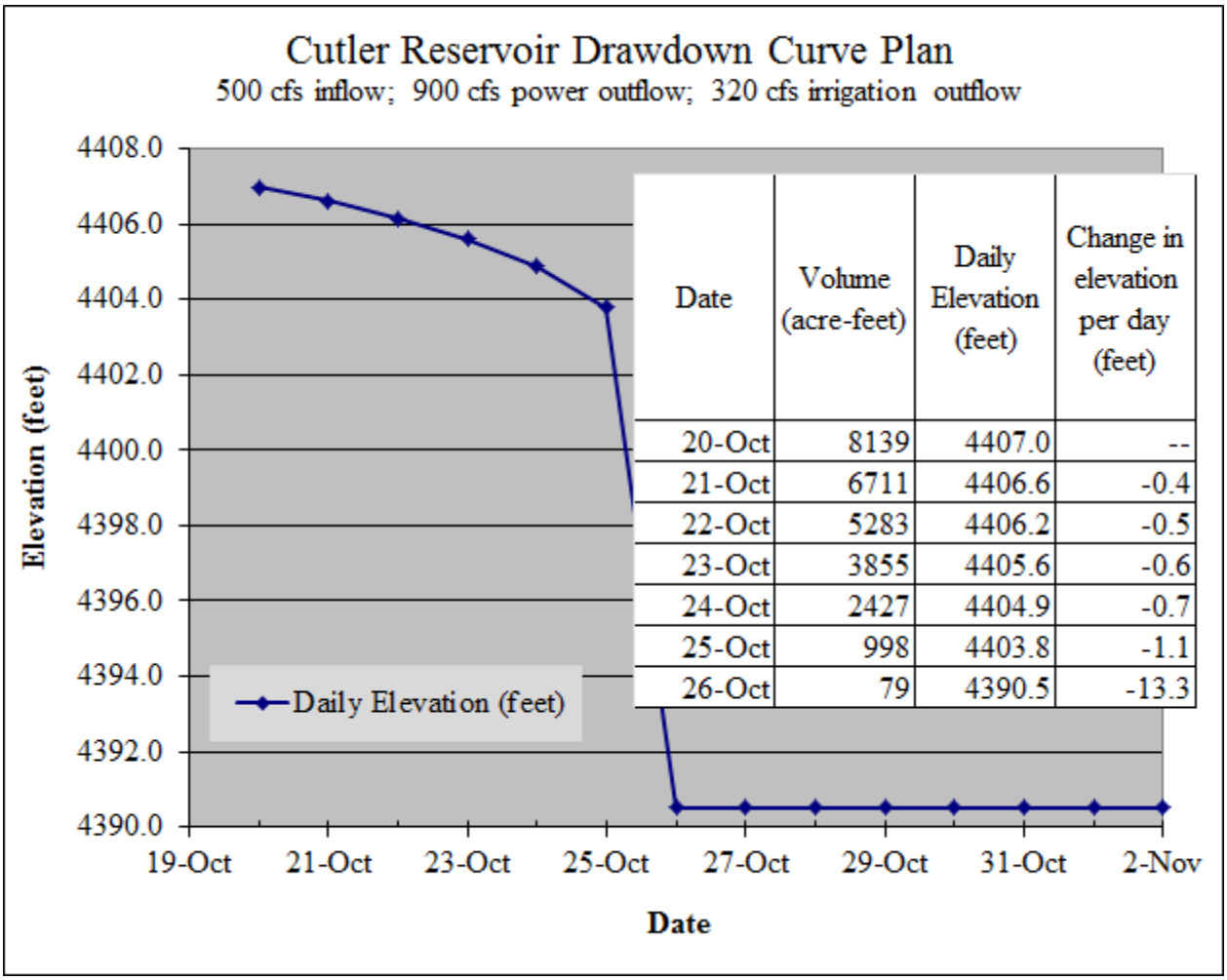
From: Davies, Eve
Sent: Wednesday, September 03, 2014 12:46 PM
To: 'Paul_Abate@fws.gov'; 'justindolling@utah.gov'
Cc: 'paulthompson@utah.gov'; 'Christopher Schulze'; 'mattburgess@utah.gov'; Davies, Eve
Subject: Proposed 2014 Cutler drawdown

Hi Justin and Paul-

As you know, PacifiCorp has proposed a drawdown of the Cutler Reservoir this fall that is necessary to complete the required maintenance of the Cutler spill gates that started in the fall of 2013. The Federal Energy Regulatory Commission (FERC), under whose authority we operate the Cutler project, requires we consult with your agencies regarding the need, timing, duration, and potential effects of the drawdown. Over the past year we have discussed with you and your respective staff's the reason for the fall drawdown in regards to: required irrigation delivery, spring nesting/breeding resource impacts, and potential higher flow concerns in other seasons. We have also consulted with the irrigators regarding the need for the 2014 drawdown. You are also aware of the temporary variance from state water quality standards we acquired from the Utah Department of Environmental Quality (UDEQ), originally in 2013, in order to address any potential increases in turbidity that may occur during the initial drawdown; we have again applied for this variance and expect to receive it shortly. Further, you are aware that the drawdown will likely be in effect through the end of the year, and that we will try to refill the reservoir as soon as possible, but beginning no later than the end of 2014 to reduce any potential impacts of very cold temperatures and deep freezing of the typically-inundated portions of the reservoir. Lastly, we have discussed the impacts of a fall drawdown on recreationists, primarily duck hunters, fishers, and boaters on the reservoir, and our efforts to notify the public through a series of on-site postings, press releases, and various electronic and other media outreaches to inform potential users of the project schedule.

Below I have attached our most current information regarding the potential flows and timing of the drawdown that we are currently planning on initiating on the 20th of October, 2014. This drawdown profile is similar to that completed in 2013, which did minimize turbidity during the drawdown event. I would very much appreciate a response from you at your earliest convenience, so that we can satisfy our FERC requirement of documenting our consultation. Thank you in advance for your time and support in this matter. Please do not hesitate to contact me regarding any comments or questions you may have-
Eve

Eve Davies, Principal Scientist
Hydro Resources, PacifiCorp Energy
1407 West North Temple, Ste. 110
Salt Lake City, Utah 84116
801-220-2245
801-232-1704 (cell)



Date	Volume (acre-feet)	Daily Elevation (feet)	Change in elevation per day (feet)
20-Oct	8139	4407.0	--
21-Oct	6711	4406.6	-0.4
22-Oct	5283	4406.2	-0.5
23-Oct	3855	4405.6	-0.6
24-Oct	2427	4404.9	-0.7
25-Oct	998	4403.8	-1.1
26-Oct	79	4390.5	-13.3

Edwards, Stewart

From: Abate, Paul <paul_abate@fws.gov>
Sent: Wednesday, September 03, 2014 12:50 PM
To: prvs=316ddcfc3=Eve.Davies@pacificorp.com
Subject: Out of Office Notice Re: Proposed 2014 Cutler drawdown

I am currently out of the office. I am not able to check messages while I am out, but will return your email upon my return to the office.

Thanks.

--

Paul Abate
Supervisor, Aquatic and Plant Endangered Species Section
US Fish and Wildlife Service, Utah Field Office
2369 West Orton Circle, Suite 50
West Valley City, Utah 84119

paul_abate@fws.gov
(801)975-3330 x130
(801)975-3331 (fax)

Edwards, Stewart

From: Justin Dolling <justindolling@utah.gov>
Sent: Friday, September 05, 2014 3:07 PM
To: Davies, Eve
Cc: Paul_Abate@fws.gov; paulthompson@utah.gov; Christopher Schulze; mattburgess@utah.gov; Samuel Mckay; Phil Tuttle; Chris Penne; Krissy Wilson; Randy Wood; Phil Douglass; Randy Berger
Subject: Re: Proposed 2014 Cutler drawdown

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Eve,

My response is to confirm PacifiCorp's consultation with the Utah Division of Wildlife Resources (UDWR) regarding the required draw down of Cutler Reservoir for dam maintenance. Although we are concerned with the timing of this project due to the waterfowl hunting season, we understand the project challenges and the need to perform the maintenance work at this time of the year. It is our hope that your maintenance work will proceed smoothly and the reservoir will return to normal pool levels as soon as possible this winter.

I do ask that PacifiCorp coordinate closely with the UDWR with regard to the date when the large draw down will occur, so the UDWR can plan bi-valve mollusk surveys appropriately. Based on the present information, this draw down will occur beginning on October 25th and will be completed on October 26th. Please contact Paul Thompson (801-791-4034) and Samuel McKay (801-388-4097) a week prior to the large draw down, including subsequent updates if the date or timing changes. The information the UDWR will need is: 1) The date and time when the large draw down will begin and 2) the date and time the draw down will be completed. Bi-valve mollusks occur in Cutler Reservoir and the UDWR believes that these bi-valves are California floaters, which are considered a state sensitive species. The goal of the bi-valve surveys would be to: 1) confirm the species of bi-valve mollusks present in Cutler Reservoir, 2) determine the rough distribution of bi-valve mollusks in Cutler Reservoir, and 3) determine the density of bi-valve mollusks in Cutler Reservoir at some level, if possible. Assistance from PacifiCorp with these surveys would be greatly appreciated.

In addition, it would be helpful if you would provide our Ogden office (515 East 5300 South) with a copy of the outreach information you develop so we can post it in our lobby and on our website.

I appreciate the opportunity to comment on your proposed project and please contact me if you need additional information.

Justin Dolling
Regional Supervisor
Utah Division of Wildlife Resources

On Wed, Sep 3, 2014 at 12:45 PM, Davies, Eve <Eve.Davies@pacificorp.com> wrote:

Hi Justin and Paul-

As you know, PacifiCorp has proposed a drawdown of the Cutler Reservoir this fall that is necessary to complete the required maintenance of the Cutler spill gates that started in the fall of 2013. The Federal Energy Regulatory Commission (FERC), under whose authority we operate the Cutler project, requires we consult with your agencies regarding the need, timing, duration, and potential effects of the drawdown. Over the past year

we have discussed with you and your respective staff's the reason for the fall drawdown in regards to: required irrigation delivery, spring nesting/breeding resource impacts, and potential higher flow concerns in other seasons. We have also consulted with the irrigators regarding the need for the 2014 drawdown. You are also aware of the temporary variance from state water quality standards we acquired from the Utah Department of Environmental Quality (UDEQ), originally in 2013, in order to address any potential increases in turbidity that may occur during the initial drawdown; we have again applied for this variance and expect to receive it shortly. Further, you are aware that the drawdown will likely be in effect through the end of the year, and that we will try to refill the reservoir as soon as possible, but beginning no later than the end of 2014 to reduce any potential impacts of very cold temperatures and deep freezing of the typically-inundated portions of the reservoir. Lastly, we have discussed the impacts of a fall drawdown on recreationists, primarily duck hunters, fishers, and boaters on the reservoir, and our efforts to notify the public through a series of on-site postings, press releases, and various electronic and other media outreaches to inform potential users of the project schedule.

Below I have attached our most current information regarding the potential flows and timing of the drawdown that we are currently planning on initiating on the 20th of October, 2014. This drawdown profile is similar to that completed in 2013, which did minimize turbidity during the drawdown event. I would very much appreciate a response from you at your earliest convenience, so that we can satisfy our FERC requirement of documenting our consultation. Thank you in advance for your time and support in this matter. Please do not hesitate to contact me regarding any comments or questions you may have-

Eve

Eve Davies, Principal Scientist

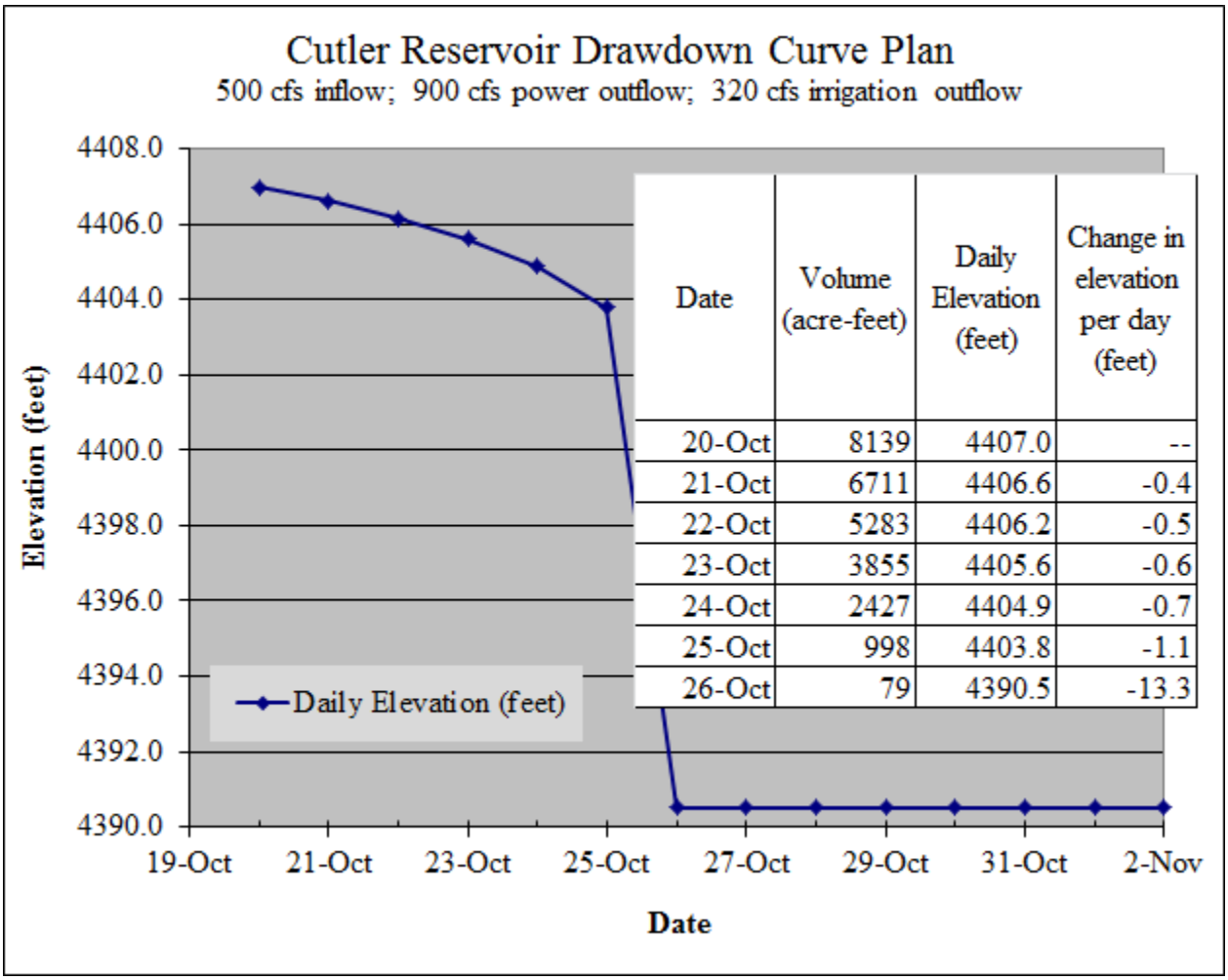
Hydro Resources, PacifiCorp Energy

1407 West North Temple, Ste. 110

Salt Lake City, Utah 84116

801-220-2245

801-232-1704 (cell)



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25-Oct	998	4403.8	-1.1
26-Oct	79	4390.5	-13.3

PACIFICORP ENERGY
A MIDAMERICAN ENERGY HOLDINGS COMPANY

1407 West North Temple
Salt Lake City, Utah 84116

29 August 2014

Erica Gaddis, Utah Division of Water Quality
195 North 1950 West, DEQ Third Floor
Salt Lake City, Utah

RE: PacifiCorp request for temporary variance from state turbidity standards

Dear Ms Gaddis:

Thank you again for the discussion regarding water quality regulations as they relate to PacifiCorp's proposed October 20, 2014, Cutler Reservoir drawdown. As you know, the construction associated with this drawdown is required by the Federal Energy Regulatory Commission (FERC), under whose license we operate and maintain Cutler Reservoir.

The proposed construction work involves the final coating process on the new portions of the dam spill gates that were completed last year. The remaining proposed work will only continue until the end of 2014. The work does not involve any work in the reservoir itself or in the channel of the Bear River; all work is confined to the existing infrastructure of the dam and spill gates. To access the gates, however, it requires a relatively large-magnitude drawdown of approximately 15 feet at Cutler Dam. We assume that the drawdown may increase the turbidity of the Bear River below Cutler, and could result in an elevation of turbidity over the State of Utah's water quality standard of 10 NTUs over background limit. Therefore, we are requesting a temporary variance from water quality standards for this project; we do not believe the project will result in any long-term impacts to water quality in the Bear River.

Currently, we are targeting a drawdown beginning on October 20, 2014, and extending to the end of the year, although reservoir refill could potentially still be occurring in January of 2015. Although we have a commitment with the FERC to complete these repairs this year, we also have looked at alternative timelines to complete the required repairs in an effort to balance our other interests in ensuring a safe and reliable source of hydropower, reducing environmental and natural resource impacts, and providing flows to meet irrigation contracts and Bear River Compact requirements.

Due to irrigation contracts and legal requirements to provide that water, the work cannot take place during the bulk of the irrigation season (generally May-late-October), although we have requested and received permission from the irrigators to move the work into October of 2014 in order provide a safer and more efficient work environment for the proposed project. From a turbidity standpoint, since the drawdown will likely add to turbidity in the Bear River downstream of Cutler Dam, spring, when flows and resultant turbidity levels are naturally higher, would be the ideal time for actions that could increase the turbidity. However, in this case, a spring drawdown would result in the greatest impact to Cutler's myriad breeding and nesting populations of waterfowl, shorebirds, migratory songbirds, and other wildlife that depend on relatively minor fluctuations in water levels in the 10,000 acres of open water,

shallow-water wetlands, and associated uplands that make up the Cutler Hydroelectric Project. Further, spring, and potentially even winter river flows can change drastically due to rain, snow, or rain-on-snow precipitation events; having inoperable spill gates during such an event would not only risk the safety of the workers completing the spill gate repairs, it could also affect the safe operation of the dam itself if the structure was overtopped.

Given those criteria, completing the repairs during fall, which is also the relatively lowest flow season, will have the least impact in regards to balancing other resources uses and constraints, although admittedly we have the greatest potential to affect turbidity levels in the Bear River below Cutler due to the impact of the drawdown on the very low natural flows in the river this time of year. Unfortunately, this schedule also impacts the recreational use of the reservoir for fall duck hunters, but most seem to understand the need to protect the spring nesting/breeding resource for waterfowl and other wildlife. As a part of this proposed project, we have also consulted with other state and federal agencies (the UDWR and the USFWS), as well as with our other stakeholder partners including the irrigators, local NGOs, and recreation interests. We will post the proposed drawdown schedule at the reservoir, in local hunting goods stores, and on relevant web sites in order to alert recreation users in the area of our plans and the need for them, and we will also issue some press releases.

Lastly, PacifiCorp has had to undertake drawdowns of this magnitude three other times in the last decade; both times the drawdowns were also fall events and were made in consultation with other state and federal regulators. None of the previous drawdowns have resulted in fish kills, complaints (other than in regards to impacts to recreational users), or impacts to water quality of a severity that any additional actions were warranted. We propose to complete the drawdown as we have previously, that is coming down relatively quickly in the upper portion of the reservoir, but then slowing substantively to allow sediments and mud flats to 'settle' as they are exposed, and reducing the turbidity to the degree possible by slowing the flow.

For the reasons detailed above, PacifiCorp requests a temporary variance to Utah water quality standards for the proposed Cutler Reservoir drawdown. PacifiCorp is grateful for this avenue to ensure our project's compliance with all applicable regulations. We thank you in advance for your time; please feel free to let me know if you have any comments or questions regarding this matter.

Sincerely,

Eve Davies

Eve Davies, Principal Scientist
PacifiCorp Energy Hydro Resources
801-220-2245 (office)
801-232-1704 (cell)
Eve.davies@pacificorp.com

Cc: Jack Kolkman, Stewart Edwards, Eve Davies, Hydro Document Services

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

SEP 22 2014

Eve Davies
Hydro Resources, PacifiCorp Energy
1407 West North Temple, Ste. 110
Salt Lake City, Utah 84116

Re: **Approval for Temporary Variance from State Water Quality Standards**
Water Quality Certification No.: UT 890822-050
FERC Project No. 2420
Applicant: PacifiCorp Energy
Project: Cutler Reservoir Dam Restoration
Purpose: To make the necessary FERC required repairs to the existing infrastructure of the dam including final coating process on the new portions of the dam spill gates.
Location: The Cutler Reservoir covers approximately 10,000 acres at its average storage capacity. It is located six miles west of Logan City in Cache County, Utah.
Watershed: The 6,900-square mile Cutler Reservoir watershed, including the Middle Bear River, is part of the Bear River basin that encompasses northeastern Utah, southeastern Idaho, and southwestern Wyoming
Public Comment Period: None.

Dear Ms. Davies:

Pursuant to Section 401 of the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), the Director of the Division of Water Quality (DWQ) certifies that he has reasonable assurances that any discharge associated with the repair to the Cutler Reservoir Dam System will not permanently violate surface water quality standards, or permanently degrade surface waters of the Bear River or Cutler Reservoir not presently meeting water quality standards. In accordance with Section 401(a)(1) of the CWA (33 U.S.C. Sec. 1341(a)(1)), DWQ hereby issues a temporary variance to Water Quality Certification UT 890822-050 subject to the conditions outlined below be met.

In your August 29, 2014 request letter you noted that these necessary repairs will require a large-magnitude drawdown of approximately 15 feet at Cutler Dam starting on October 20, 2014. The release may increase turbidity and cause other water quality standard violations in the Bear River below Cutler Reservoir Dam. The Bear River from Malad River to the confluence to Cutler Reservoir has the following beneficial use classifications: 2B (protected for secondary contact recreation); 3B (protected warm water fishery and aquatic life); 3D (protect for waterfowl, shore birds and aquatic life) and 4 (protected for agricultural uses including irrigation of crops and stock watering). This segment of the Bear River currently has an approved Total Maximum Daily Load (TMDL) and identifies benthic macroinvertebrates and total phosphorus (P) as one of the sources contributing to that impairment.

Therefore, as an approval for a temporary variance to Water Quality Certification UT 890822-050, the DWQ requests the following conditions:

1. Notify DWQ contact 48 hours prior to the initial release.
2. Water quality standards may not be further violated unless appropriate Best Management Practices (BMPs) are incorporated to minimize the erosion-sediment load to the Bear River and to any adjacent waters during dam repair activities. Suspended sediment can potentially have a large amount of total phosphorus attached.
3. All repairs will be confined to the dam and spill gates infrastructure and not involve any work in the Cutler Reservoir or in the channel of the Bear River.
4. To minimize the effects on aquatic wildlife in the Cutler Reservoir, your discharge strategy will be conducted as it was your in October 2013 drawdown and as is outlined in your August 29, 2014 request letter. That is, a relative quick discharge in the upper portion of the Reservoir, but slowing substantively to allow sediment and mud flats to settle as they are exposed and reducing the turbidity to the greatest extent possible by slowing the flow.
5. To minimize impacts to aquatic animals in and around the shoreline, please refill Cutler Reservoir as soon as possible. Every effort should be taken to avoid having the water level low at the coldest part of the year, after January 2015.
6. Utah Code Annotated 19-5-114 requires that any spill or discharge of oil or other substances which may cause pollution to the waters of the State must be immediately reported to the Utah DWQ.
7. The applicant shall not use any fill material which may leach organic chemicals (e.g., discarded asphalt) or nutrients (e.g., phosphate rock) immediately adjacent or into Bear River or Cutler Reservoir.

Please contact Mr. Bill Damery at (801) 536-4354, wdamery@utah.gov with any questions you may have concerning this Water Quality Certification with Conditions.

Sincerely,

Walter L. Baker, P.E.
Director

WLB:wd:jn

cc: Grant Koford, Bear River Health Department

File: UT 890822-050a wdamery\wp\RDCC\401 Certs New\Cutler Reservoir Dam.

Edwards, Stewart

From: Darin McFarland <mcfarland0602@gmail.com>
Sent: Wednesday, August 13, 2014 5:41 PM
To: Baldwin, Connely
Subject: Re: Cutler spillgate work

Connely,

Thanks for the reminder. I had mentioned this last year to our board but I will remind them again. Shouldn't be a problem.

Thanks

Darin

On Aug 13, 2014 5:17 PM, "Baldwin, Connely" <Connely.Baldwin@pacificorp.com> wrote:

Darin and John,

Due to the extent of the scope of work on the Cutler Dam spillgates, PacifiCorp Energy will once again need to draw down Cutler Reservoir this fall. We would like to begin the drawdown the morning of October 20th. The final reservoir level will be similar to last year. The current schedule plans for the reservoir to be refilled beginning early January 2015. Recall that at Cutler Dam the East Canal is unable to convey any water and the West Canal is limited to about 70 cfs. The water level around Cutler Reservoir will make normal irrigation pumping from the reservoir infeasible.

Please respond to acknowledge this limitation, as this is a requirement the Federal Energy Regulatory Commission has imposed. If you have any concerns regarding the date, please do not hesitate to contact me.

Thanks,

Connely

Connely Baldwin

PacifiCorp Energy

Hydro Resources

NTO 110 | 801-220-4636

Edwards, Stewart

From: Julie Allen <allenfam17@gmail.com>
Sent: Thursday, August 14, 2014 6:38 AM
To: Baldwin, Connely
Subject: Re: Cutler spillgate work

Hi Connley, that sounds fine, I'm sure the watering will or should be over. Thanks, John

On Wed, Aug 13, 2014 at 5:17 PM, Baldwin, Connely <Connely.Baldwin@pacificorp.com> wrote:

Darin and John,

Due to the extent of the scope of work on the Cutler Dam spillgates, PacifiCorp Energy will once again need to draw down Cutler Reservoir this fall. We would like to begin the drawdown the morning of October 20th. The final reservoir level will be similar to last year. The current schedule plans for the reservoir to be refilled beginning early January 2015. Recall that at Cutler Dam the East Canal is unable to convey any water and the West Canal is limited to about 70 cfs. The water level around Cutler Reservoir will make normal irrigation pumping from the reservoir infeasible.

Please respond to acknowledge this limitation, as this is a requirement the Federal Energy Regulatory Commission has imposed. If you have any concerns regarding the date, please do not hesitate to contact me.

Thanks,

Connely

Connely Baldwin

PacifiCorp Energy

Hydro Resources

NTO 110 | 801-220-4636

ATTACHMENT 3d

FEDERAL ENERGY REGULATORY COMMISSION
Washington D.C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2420-018—Utah
Cutler Hydroelectric Project
PacifiCorp Energy

MAY 06 2010

Mr. R. A. Landolt
PacifiCorp Energy
825 N.E. Multnomah, Suite 1500
Portland, OR 97232

Subject: Water Year 2009 Annual Reservoir Elevation Report per license article 401

Dear Mr. Landolt:

This acknowledges receipt of your Water Year 2009 Annual Reservoir Elevation Report, filed December 18, 2009, for the Cutler Hydroelectric Project. The annual report was filed pursuant to the Order Modifying and Approving Project Operation Plan (plan).[1] The plan specifies reservoir elevations for the project to operate within. The plan also specifies tolerance ranges that allow for project operation slightly outside of the approved range as operators work to return the reservoir level to within the operating range. The project is located on the Cutler Reservoir at the confluence of the Bear, Logan, and Little Bear Rivers in Cache and Box Elder Counties, Utah.

In your report you indicated that during the 2009 water year, defined as the period from October 1, 2008 to September 30, 2009, Cutler reservoir elevations were maintained within the combined tolerance and approved reservoir operating range 100 percent of the time during the winter period, December 2, 2008 through February 28, 2009, and 92.8 percent of the time during the summer period, March 1, 2009 through December 1, 2009. Included with your filing was a chart of the Cutler reservoir daily average elevations for water year 2009.

---

[1] Order Modifying and Approving Project Operation Plan. 99 FERC ¶ 62,085 (issued April 30, 2002).

Your report indicated that there were two circumstances which resulted in a variation from the project's approved reservoir operating tolerance range during the summer period. The first variation occurred in November 2008, and was a result of maintenance work on the west canal irrigation head gate that was required by the Commission's Division of Dam Safety and Inspections (D2SI) following its March 28, 2008 dam safety inspection of the project. The maintenance work required a 20-25 foot reservoir drawdown, which was approved by the D2SI in its email correspondence dated August 18, 2008. The second variation occurred on June 16, 2009, when the reservoir elevation was lowered below the project's approved reservoir operating tolerance range in an effort to ameliorate high water levels caused by abnormally high rainfall. You informed the Commission of this deviation, as required by your plan, in a report dated July 14, 2009. In a letter dated August 3, 2009, the Commission confirmed that the deviation did not constitute a violation of your project license.

Review of your eighth report, together with the reservoir elevation chart, indicates that it adequately fulfills the reporting requirements approved in the Operations Plan for the Cutler Project. As a reminder, your next annual reservoir elevation report for water year 2010 is due by December 31, 2010.

Thank you for your cooperation. If you have any questions regarding this issue, please call me at (202) 502-6760.

Sincerely,

Joy M. Kurtz

Joy M. Kurtz
Aquatic Ecologist
Division of Hydropower Administration and Compliance

c: Mr. Paul Abate
U.S. Fish and Wildlife Service
2369 West Orton Circle, Suite 50
West Valley City, UT 84119

Mr. Rod Hodson
Utah Division of Water Resources
515 East 5300 South
Ogden, UT 84405

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2420-049
Cutler Hydroelectric Project
PacifiCorp

JAN 05 2011

Mr. Randy A. Landolt
Hydro Resources Department
PacifiCorp
825 N.E Multnomah, Suite 1500
Portland, OR 9723

Subject: Cutler Hydroelectric Project – Annual Report of Reservoir Elevation

Dear Mr. Landolt:

1. On December 15, 2010, you filed with the Secretary of the Commission Reservoir Elevation Report for the Cutler Hydroelectric Project, FERC No. 2420 for the period October 1, 2009 to September 30, 2010 (water year 2010), pursuant to Article 401 of the license.

2. According to the report, during the water year 2010, the Cutler Reservoir elevations were maintained within the approved reservoir operating tolerance range except for a short period when the reservoir was drawn down to facilitate the replacement of irrigation head gate stem.

3. Your filing fulfils the requirement under Article 401 of the license. Please be advised that, while Commission staff will continue to review these filings, staff will no longer issue acknowledgement letters for future filings under this license requirement, unless further Commission action is needed. When your filings for this requirement are posted on the Commission's e-library system, you may consider that as acknowledgment of the Commission's receipt of your submittal.

4. If you have any questions, please contact Mr. Vedula Sarma at (202) 502-6190.

Sincerely,

M. Joseph Fayyad
Engineering Team Lead
Division of Hydropower Administration
and Compliance

PACIFICORP ENERGY
A DIVISION OF PACIFICORP

825 NE Multnomah, Suite 1500
Portland, Oregon 97232

Electronically Filed December 14, 2011

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Subject: Cutler Hydroelectric Project, FERC No. P-2420
2011 Annual Report of Reservoir Elevations

Dear Ms. Bose:

In compliance with FERC's Order Modifying and Approving Project Operation per Article 401 issued April 30, 2002, PacifiCorp herein submits the Reservoir Elevations Report for the Cutler Hydroelectric Project for the period October 1, 2010 to September 30, 2011 (water year 2011). We have attached a chart showing the upper and lower target and tolerance ranges as approved under Article 401 of the current license as well as the Cutler reservoir daily average elevation.

During the 2011 water year, daily average Cutler Reservoir elevations as measured by the Cutler dam gage were maintained within the approved reservoir operating tolerance range 100.0% of the time during the winter period (December 2 through February 28) and 100.0% of the time during the summer season (March 1 through December 1) except during the period of flood control as shown on the attached figure that were approved by your office. Reservoir fluctuations arise primarily from irrigation demand-balancing. During the non-irrigation season, fluctuations arise from reservoir balancing for power operations and flood control.

There are currently no changes proposed to the Cutler Operating Plan. We will continue operating the reservoir as set forth in the license and as modified in the Order of April 30, 2002.

This letter and its attachment have been filed electronically, and are considered public information. Copies have also been sent to the FERC Portland Regional Office, Utah Division of Wildlife Resources and US Fish and Wildlife Service. If you have questions or need further information please contact Adam Doran at (801) 220-2566

Sincerely,

James H Wagner for

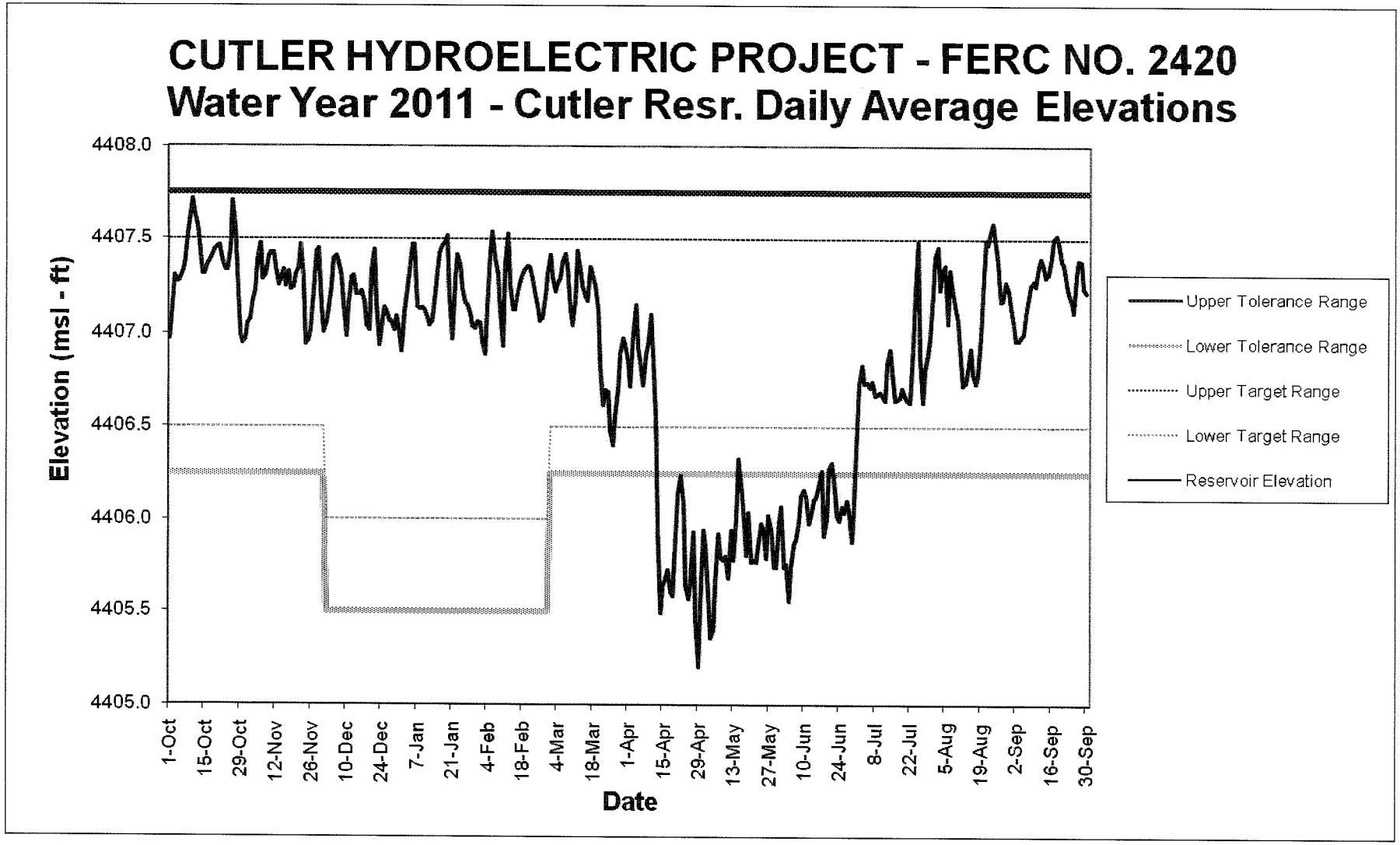
R.A. Landolt
Managing Director, Hydro Resources

RAL:ALD: dldt

Encl:	Letter - Public
	Reservoir Elevation Chart - Public

The security classification of each enclosed document is identified in the Enclosure Chart.
If identified as Privileged, Protected or Critical Energy Infrastructure Information (CEII), DO NOT RELEASE.

hc:	Douglas L. Johnson, PE Regional Engineer Federal Energy Regulatory Commission 805 SW Broadway, Suite 550 Portland, OR 97205	**hc:**	Erich Gaedeke Federal Energy Regulatory Commission-DHAC 805 SW Broadway, Suite 550 Portland, OR 97205
hc:	Paul Abate US Fish and Wildlife Service 2369 West Orton Circle, Suite 50 West Valley City, UT 84119	**hc:**	Ron Hodson, Northern Regional Supervisor Utah Division of Wildlife Resources 515 East 5300 South Ogden, UT 84405



FEDERAL ENERGY REGULATORY COMMISSION
Washington, D.C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2420-018--Utah
Cutler Hydroelectric Project
PacifiCorp

Mr. Mark Sturtevant
Managing Director, Hydro Resources
PacifiCorp Energy
825 NE Multnomah, Suite 1500 LCT
Portland, OR 97232

September 18, 2014

Subject: 2012 and 2013 Annual Reports of Cutler Reservoir Elevations

Dear Mr. Sturtevant:

We received your annual reports of reservoir elevations for water years 2012 and 2013 filed on December 14, 2012 and December 30, 2013, respectively, for the Cutler Hydroelectric Project No. 2420. You filed these reports pursuant to the Order Modifying and Approving Project Operation Plan.[1] The plan approved in the order specifies reservoir elevation operating ranges as well as a tolerance band to accommodate the return of the reservoir level to within the operating range.

In your reports, you indicate that during both the 2012 and 2013 water years, daily average reservoir elevations were maintained within the approved reservoir operating tolerance range 100 percent of the time during the winter (December 2 through February 29) and summer (March 1 through December 1) periods. You included a chart with your filings of average daily reservoir elevations for the 2012 and 2013 water years.

Your reports satisfy the annual reporting requirements of the approved plan for the past two water years. Your next annual reservoir elevation report is due to the Commission no later than December 31, 2014. Please be advised that, while Commission staff will continue to review these filings, staff will no longer issue acknowledgement letters for future filings under this license requirement, unless further Commission action is needed. When your future filings for this requirement are posted on the Commission's eLibrary system, you may consider that as acknowledgment of the Commission's receipt of your submittal.

---

[1] 99 FERC ¶ 62,085 (issued April 30, 2002).

Thank you for filing your reports with us. If you have any questions, please contact me at (202) 502-8586 or jennifer.ambler@ferc.gov.

Sincerely,

Jennifer Ambler

Jennifer Ambler, Ph.D.
Environmental Review Branch
Division of Hydropower Administration
and Compliance

ATTACHMENT 3e

FEDERAL ENERGY REGULATORY COMMISSION
Washington, D. C. 20426

OFFICE OF ENERGY PROJECTS

Project No. 2420-046-Utah
Cutler Hydroelectric Project
PacifiCorp Energy

Mr. R. A. Landlot
PacifiCorp Energy
825 NE Multnomah, Suite 1500
Portland, OR 97232

August 3, 2009

Subject: Article 401 Reservoir Elevation Variance Report

Dear Mr. Landlot:

This is in response to your letter filed on July 14, 2009, reporting a deviation from the minimum elevation requirement in the project license of the Cutler Hydroelectric Project No. 2420. Article 401 of the "Order Modifying and Approving Project Operation Plan"[1] requires that the licensee operate to maintain the reservoir's elevation between 4407.5' and 4406.5' with a tolerance range of plus or minus 0.25', ninety-five percent of the time from March 1 to December 1. The reservoir elevation limits were instituted primarily to protect nesting waterfowl in the middle portions of the reservoir, and the water levels are monitored at the Benson Marina gage. The Order acknowledges that there may be variations from the target elevations due to flooding and other factors, but requires the licensee to file a report with the Commission when the reservoir elevation falls below the lower tolerance level of 4406.25 feet, or exceeds the high operating range of 4407.75' as measured at the Cutler dam gage. The report is to be filed within 30 days of the exceedance event.

You reported that on June 16, 2009, the variance occurred when an extended period of abnormally high rainfall produced locally high water tables and standing water on project lands and on private agricultural lands surrounding Cutler Reservoir. You reported that in an effort to ameliorate the local high water conditions, you chose to lower the reservoir elevation slightly below the Order's lower tolerance level (4406.25'). This operational procedure continued through June 22, 2009. You stated that during this seven-day period, the water elevations at the Benson Marina gage remained within the Order's target elevations established for nesting water fowl. Notification of this event has been sent to the Commission, U.S. Fish and Wildlife Service, and Utah Division of Wildlife Resources.

[1] 99 FERC ¶ 62, 085 (2002)

Based on the available information, we will not consider the reported water surface elevation deviation from June 16, 2009 to June 22, 2009 to be a violation of your license. We acknowledge that you have taken the necessary precautions to restore flows.

Thank you for your cooperation in this matter. If you have any questions regarding this letter, please contact Alyssa Dorval at (212)273-5959, or at alyssa.dorval@ferc.gov.

Sincerely,

Alyssa Dorval for

William Guey-Lee
Chief, Engineering & Jurisdiction Branch
Division of Hydropower Administration
and Compliance

ATTACHMENT 3†

PACIFICORP ENERGY
A DIVISION OF PACIFICORP

825 NE Multnomah, Suite 1500
Portland, Oregon 97232

Electronically filed September 19, 2014

Douglas L. Johnson, P.E., Regional Engineer
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, Oregon 97205

Subject: Cutler Hydroelectric Project, FERC No. P-2420
Reservoir Elevation Variance Report

Dear Mr. Johnson:

Federal Energy Regulatory Commission (FERC) Order Modifying and Approving Project Operation issued April 30, 2002 approved the Operational Plan for the Cutler Hydroelectric Project. This Order requires PacifiCorp Energy to file a report whenever the Cutler Reservoir elevation as measured by the Cutler Dam gage exceeds the total upper or lower operating range, including the tolerance as approved under Article 401. The following describes an event that resulted in reservoir elevations above the upper tolerance range.

On Sunday, August 24, 2014, the daily average Cutler reservoir level was above the upper tolerance elevation of 4407.75 feet by 0.03 feet, for a daily average of 4407.78 feet. This occurred during the irrigation season when an unexpectedly large rain storm in the ungauged basin area increased the natural flow into the project. The Operational Plan for the Cutler Project anticipates this type of event, and hence specifies a 95% target percentage for staying within the operating range, including the tolerance. This one-day event reduced the percentage from 100 percent of the time to 99.6 percent of the time, and is reportable although the percentage is still above the overall 95% target percentage established by the Plan.

The background for the operation of Cutler Reservoir is appropriately captured in the Operational Plan, but the following is a summary of the specific issues. This event occurred during the irrigation season when the primary operational purpose of the Cutler Project is delivery of irrigation water from Bear Lake Reservoir, a much larger upstream storage facility. There is typically no scheduled power generation when irrigation releases from Bear Lake Reservoir are made. However, due to the 4-day water travel time lag for storage water releases, rainfall events in the ungauged direct basin area draining into Cutler Reservoir may result in "forced" generation when the rainfall increases inflow above the level needed for irrigation. The use of the excess inflow for generation essentially "wastes" the storage water previously released for irrigation. Therefore, in that situation, generation is minimized as much as possible.

In the days preceding the event, significant rainfall had occurred. Table 1 (attached) is a chart showing daily totals of precipitation at the powerhouse for August 21, 2014 through August 27, 2014. The attached Figures 1 and 2 present "after-the-fact" estimates of precipitation using radar data for the same period. Although a comparison of Table 1 data and the two Figures' data shows that radar data is not always indicative of actual rainfall as measured at the powerhouse, the two Figures do reveal that an unusually heavy rainstorm occurred on August 23, 2014. This type of event was anticipated and noted in the Operational Plan, and is the reason for the previously-discussed percentage compliance approach.

On August 24, 2014, the day of the event, generation was minimized to conserve water well before the tolerance level was exceeded. However, inflow more sustained than initially anticipated coupled with fewer irrigation withdrawals due to the rain contributed to an overall increase in reservoir level of 0.03 feet.

PacifiCorp Energy personnel reported the reservoir increase to representatives from the Utah Department of Wildlife Resources, Utah Department of Environmental Quality (Division of Water Quality), U.S. Fish and Wildlife Service, and FERC-PRO Office along with a description of the project operation target and tolerance ranges. No observations or reports of adverse environmental impacts were received from contacted agencies or the general public.

This letter and its attachments have been electronically filed. The security classification of each component in this filing is shown in the Enclosure List below. According to FERC eFiling requirements, two complete paper copies of this filing have been sent to the Portland Regional Office. One complete copy has also been sent to each of those agencies listed below. If you have any questions concerning this matter, please contact Connely Baldwin at 801-220-4636, or Briana Weatherly at 503-813-7039.

Sincerely,

Briana Weatherly, for

Mark A. Sturtevant
Managing Director, Hydro Resources

MAS: CB: BW: dldt

Encl: Letter – Public
Table of Daily Average Elevations -- Public
Two Figures of Rainfall -- Public

eFile: Douglas L. Johnson, P.E.,
Regional Director
Via eLibrary at www.ferc.gov

hc: Douglas L. Johnson, P.E., Regional Director
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, OR 97205

hc: Erich Gaedeke
DHAC – Portland Regional Office
Federal Energy Regulatory Commission
805 SW Broadway, Suite 550
Portland, OR 97205

hc: Paul Abate, Aquatics Branch Supervisor
US Fish and Wildlife Service
Utah Ecological Services Field Office
2369 Orton Circle, Suite 50
West Valley City, Utah 84119

The security classifications of each component in this filing are identified in the Enclosure Chart.
If considered Privileged or Critical Energy Infrastructure or Protected information, DO NOT RELEASE.

hc: Justin Dolling, Regional Supervisor
Utah Division of Wildlife Resources
Northern Region
515 East 5300 South
Ogden, UT 84405

hc: Erica Gaddis, Manager
Water Quality Management Section
Utah Division of Water Quality
195 North 1950 West
Salt Lake City, UT 84114-4870

Table 1. Daily average reservoir elevation and daily total precipitation at the Cutler powerhouse: 21 August 2014 – 27 August 2014

Date	Daily Average Elevation (feet)	Plant Precipitation (inches)
21-Aug-14	4407.30	0.28
22-Aug-14	4407.36	0.16
23-Aug-14	4407.58	0.28
24-Aug-14	4407.78	0.13
25-Aug-14	4407.59	0.28
26-Aug-14	4407.57	0.02
27-Aug-14	4407.55	0

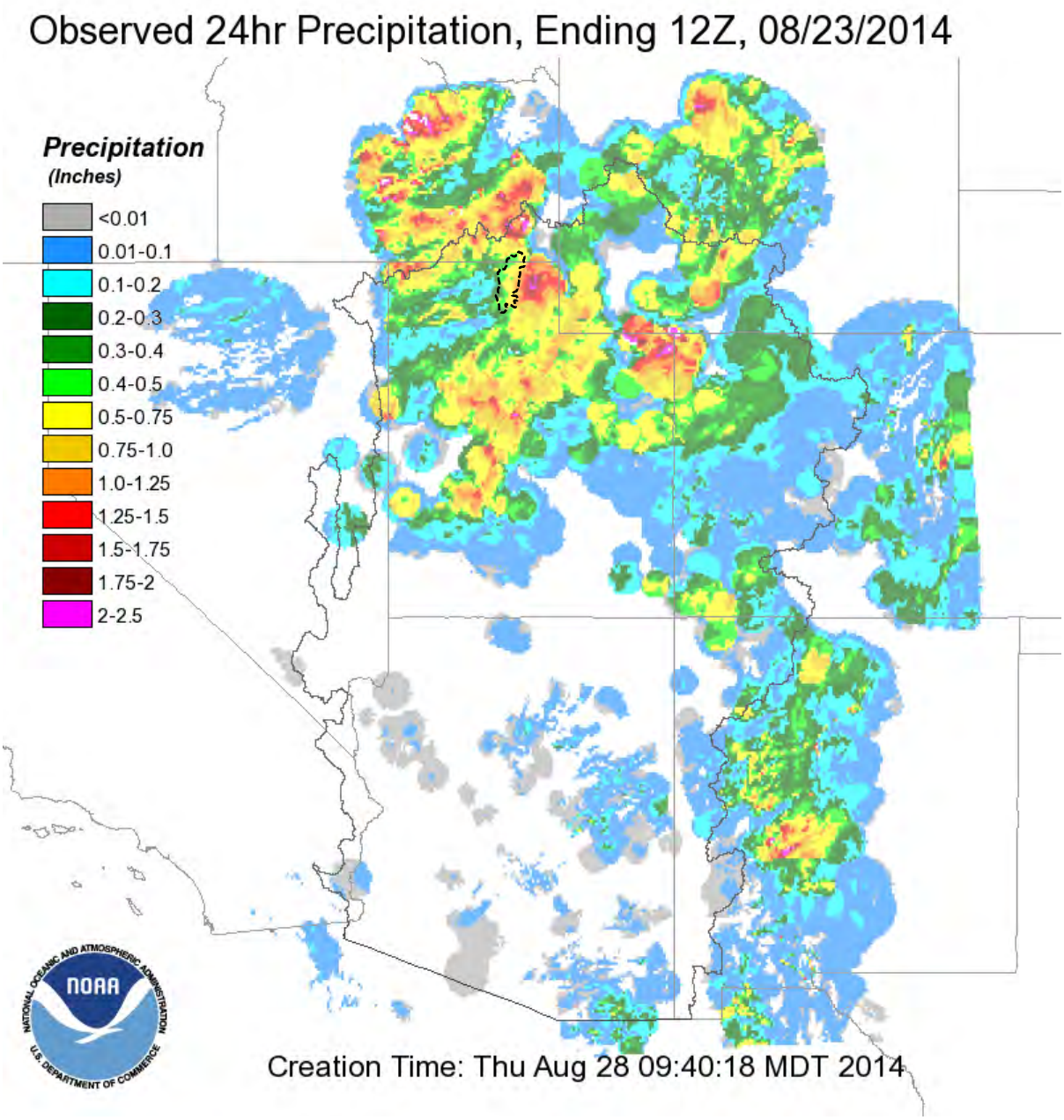


Figure 1. August 23, 2014 observed spatial precipitation, Cutler direct ungauged basin area highlighted by heavy black dashed line in the upper middle of the figure.

Observed 24hr Precipitation, Ending 12Z (12Z is 6 am MDT)

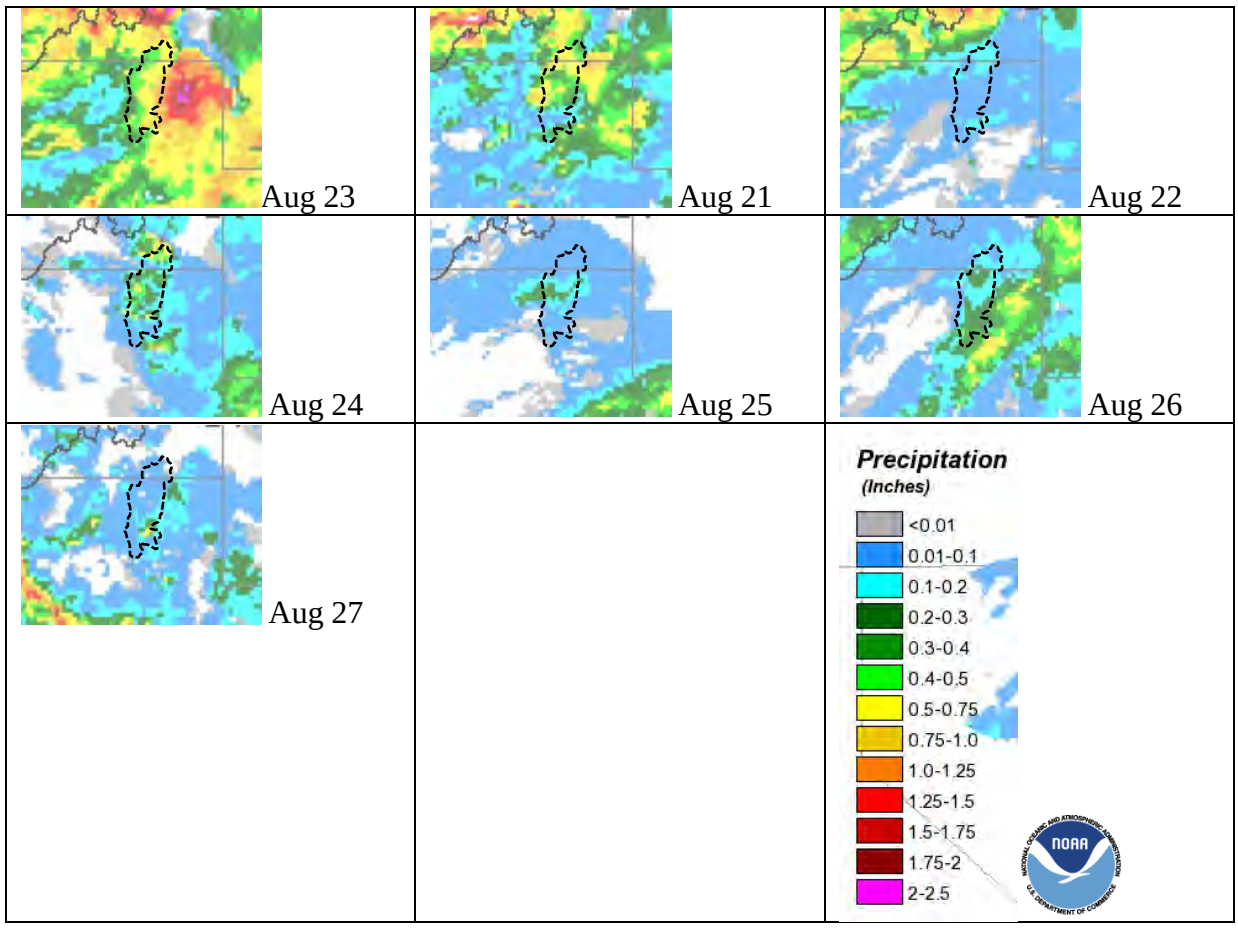


Figure 2. Detail of August 23, 2014 observed spatial precipitation showing additional days for comparison. Cutler direct ungauged basin area highlighted by heavy black dashed line.

ATTACHMENT 3g

PACIFICORP ENERGY
A DIVISION OF PACIFICORP

825 NE Multnomah, Suite 1500
Portland, Oregon 97232

December 6, 2010

Fred J. Ayer, Executive Director
Low Impact Hydropower Institute
34 Providence Street
Portland, ME 04103

Re: Cutler Hydroelectric Project (FERC No. P-2420)
Letter of support from Utah Division of Wildlife Resources

Dear Fred:

PacifiCorp Energy received notification that the Cutler Hydroelectric Project was certified by the Low Impact Hydropower Institute (LIHI) on October 22, 2010. The LIHI Governing Board decision to certify the Cutler Project was unanimous, following review of the application for certification and the Application Reviewer's Report. The LIHI certification is effective as of December 31, 2009, for a period of five years with the following condition:

The certification of the Cutler Project is contingent upon PacifiCorp Energy submitting to LIHI a letter within 60 days of issuance of the certification authored by the Utah division of Wildlife Resources in which the Utah Division of Wildlife Resources states that the flows released downstream of the Cutler Project are adequately protective of fish, wildlife, and water quality, pursuant to LIHI's application questionnaire criteria.

Enclosed is a letter from the Utah Division of Wildlife Resources indicating that releases of water below the Cutler Project are protective of fish and reservoir water levels benefit fish and wildlife species. This letter meets LIHI's condition for certification of the Cutler Project.

PacifiCorp Energy appreciates the consideration of LIHI for our stewardship of resources in the vicinity of the Cutler Project. If you have any questions, please contact me at 503-813-6629.

Sincerely,

Monte Garrett
PacifiCorp Program Manager

Enclosure

cc: Jim Burruss
Eve Davies
Mike Ichisaka
Todd Olson
Mark Stenberg

Rec. 4/2/2010 SSB

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Division of Wildlife Resources

JAMES F. KARPOWITZ
Division Director

Jim Burruss
PacifiCorp Energy
1407 West North Temple - Suite 110
Salt Lake City, Utah 84116

Dear Mr. Burruss

The Division of Wildlife Resources has received notification that the Cutler Hydroelectric Project meets Low Impact Hydropower Institute (LIHI) certification criteria. We have been asked to provide a letter of support for the LIHI certification, with specific reference to instream flow conditions below Cutler Dam. We understand that PacifiCorp operates the Cutler Hydroelectric Project under tight constraints. Cutler Reservoir is a limited-storage run-of-the-river reservoir, meaning all water entering the reservoir is released through the dam into the Lower Bear River and two irrigation canals. PacifiCorp does not own water rights in the reservoir, but utilizes the water in a pass-through manner to generate power.

We conducted an analysis of the USGS stream gage near Corinne, UT. Flow conditions are generally suitable for fish. Average daily flows are often greater than 500 cfs, except during drought conditions, when flow is greatly reduced in the Bear River mainstem. During the period of record at the USGS gage, the Bear River has never been dewatered. Even during drought years, adequate streamflow exists to allow fish survival in the Bear River.

In our experience, PacifiCorp is an environmentally conscientious company. The management of Cutler Reservoir water levels benefits various fish and wildlife species and the releases of water into the Bear River are suitable for fish survival. For these reasons, we support the LIHI certification of the Cutler Hydroelectric Project.

If you have any questions please contact Paul Burnett, Aquatic Biologist at 801-510-6965.

Sincerely,

Ron Hodson
Regional Supervisor

1594 West North Temple, Suite 2110, PO Box 146301, Salt Lake City, UT 84114-6301
telephone (801) 538-4700 • facsimile (801) 538-4709 • TTY (801) 538-7458 • *www.wildlife.utah.gov*

UTAH DNR WILDLIFE

ATTACHMENT 4

B. Water Quality

B.1a - Yes. The Cutler Hydroelectric Project is in compliance with conditions in the Section 401 Water Quality Certification (WQC) issued by the Utah Department of Environmental Quality (UDEQ) on November 20, 1991. The 401 WQC is included as Attachment 4a to this application. A letter dated December 8, 2009 from UDEQ confirms PacifiCorp's compliance with the conditions in the 401 WQC (Attachment 4b).

Repairs on the Cutler Dam during the October-January periods for 2013 and 2014 necessitated a large-magnitude drawdown of the reservoir. Temporary variances to the 401 WQC were obtained from UDEQ for both 2013 and 2014 (Attachment 4c). There have been no problems reported and no long-term impacts on water quality are anticipated.

The 401 WQC for the Cutler Hydroelectric Project calls for the implementation of best management practices in order to minimize erosion and sediment contributions to affected waters during project activities. It also recommends creation of a buffer strip adjacent to Cutler reservoir to reduce "shoreline erosion and removal of sediments and nutrients resulting from spring snowmelt and surrounding land management activities."

PacifiCorp's Cutler Resource Management Plan (RMP), approved by FERC Order issued on November 6, 1995, outlines the best management practices that are being implemented at the project. By modifying lease practices to create shoreline buffer areas (currently over 1,100 acres of shoreline buffers), planting shrubs, stabilizing banks, installing erosion control catch basins and fencing, and establishing new access restrictions, PacifiCorp is buffering the shoreline from erosion and improving water quality in the reservoir in accordance with the terms of the 401 WQC. The success of the Cutler RMP has been recognized by the Utah Non-Point Source Task Force and multiple environmental organizations (see Attachment 4d). Additional information about RMP management areas and the practices that buffer the reservoir is included under Section D of this questionnaire.

B.2 - Yes. Cutler Reservoir is on the 2010 UDEQ 303(d) list for dissolved oxygen and total phosphorus. The mainstem of the Bear River is also listed for total phosphorus from the Utah-Idaho border (28 miles upstream of the Cutler Reservoir) to its outlet at the Great Salt Lake.

B.3 - Yes. The UDEQ is in the process of delisting Cutler Reservoir from the 303(d) list. The UDEQ 2014 Integrated Report shows Cutler Reservoir as being removed from the 303(d) list for dissolved oxygen and total phosphorus due to approval of a TMDL by EPA (see Table 4 in Attachment 4e). The UDEQ 2014 Integrated Report was recently released and has not yet been approved by EPA. The UDEQ integrated reports can be found on the UDEQ website

(http://www.waterquality.utah.gov/WQAssess/currentIR.htm). A summary of water quality monitoring, assessments, and improvement actions at Cutler Reservoir follows.

The UDEQ's 2006 Integrated Report 305(b) Assessment found that agriculture was the leading cause of water quality impairment in the Bear River watershed. TMDLs have since been established for the Cutler Reservoir and the Bear River (approved by EPA in 2010) downstream of the Cutler dam. Both the lower Bear River TMDL analysis (2002) and the Middle Bear River/Cutler Reservoir TMDL analysis (2010) are available on the UDEQ website under Approved TMDLs: (http://www.waterquality.utah.gov/TMDL/approvedtmdls.htm). The Middle Bear River and Cutler Reservoir TMDL analysis lists numerous municipal waste water treatment plants and several private industries (not hydropower-related) as point sources of pollution; it also cites the following nonpoint sources of pollution:

- Canal discharge and return flow from lands irrigated with municipal wastewater treatment plant effluent
- Stormwater runoff
- On-site wastewater treatment systems (septic systems)
- Animal feeding operations and confined animal feeding operations
- Runoff from agricultural and pasture lands
- Cattle in streams, riparian areas, and reservoir shoreline
- Runoff from forested lands
- Runoff form rangelands
- Seasonal internal reservoir sources
- Pipes discharging into Cutler Reservoir and tributaries
- Stream erosion and reservoir shoreline erosion
- Natural background sources.

UDEQ attributes approximately 87 percent of the total phosphorus load in the Cutler Reservoir to external sources, and the remainder (9 percent winter to 13 percent summer) to internal/unknown sources. Thus, while the Cutler Hydroelectric Project is not a direct source of nutrients, sediments in the reservoir may contribute a small proportion of the total phosphorus load to the Bear River.

PacifiCorp is monitoring the effects of operational and resource management changes at Cutler that are designed to ensure that water quality in Cutler Reservoir is not degraded by project activities. In accordance with the FERC Order issued on November 6, 1995 approving the Cutler RMP and a modification issued by FERC on September 7, 2006, PacifiCorp regularly reports on water quality monitoring and land management activities in RMP Five Year Monitoring Reports. The reports are prepared in consultation with the US Fish and Wildlife Service, the US Forest Service, the UDWR, the Utah Division of Water Resources, the Utah Division of Parks and Recreation, and the National Park Service.

The most recent water quality reports cover three monitoring periods: 1996-1998, 2000-2003, and 2008. The monitoring period between 1996 and 1998 was characterized by wet conditions and high flows, while 2000–2003 was characterized by dry conditions with low flows. The most recent monitored hydrologic period, from 2006–2008, was characterized by moderate flows, with 2008 being the driest of these three moderate flow years. The data indicate that Spring Creek and Swift Slough (where Logan City effluent is released), which drain directly to the southern portion of the reservoir, contribute proportionately high concentrations of nutrients to the southern reservoir. Coupled with the dry conditions and low flows that characterized the 2000-2003 period, these non-project-related inputs likely played a significant role in the elevation of phosphorus levels observed in the reservoir. Monitoring results also suggested that the tributary nutrient contributions masked beneficial effects of water quality improvements, such as PacifiCorp's implementation of erosion control features and improvements in land use practices. These findings are discussed in detail in the Water Quality Analysis and Summary for the Cutler Reservoir submitted as part of the 2003-2007 and 2008-2012 RMP Five Year Monitoring Reports, available on PacifiCorp's website: http://www.pacificorp.com/es/hydro/hl/cutler.html#; select the link to Five-Year Monitoring Reports).

Basin-wide efforts to address land uses that may degrade water quality will likely need to be implemented in order to result in water quality improvements to Cutler Reservoir. As noted above, 87 percent of the phosphorus found in the reservoir comes from external sources; hence TMDLs under development for the Bear River upstream to the state line, and for the segment including Cutler Reservoir proper, should yield measurable benefits to water quality through the collaborative efforts of stakeholders.

PacifiCorp's 2008-2012 Cutler RMP Five Year Monitoring Report (http://www.pacificorp.com/content/dam/pacificorp/doc/Energy_Sources/Hydro/Hydro_Licensing/Cutler/2008_2013_Cutler_Report.pdf) documents PacifiCorp's implementation of measures that are designed to provide reasonable assurance that the hydropower facility is not contributing to water quality impairment. The success of the Cutler RMP has been recognized by the Utah Non-Point Source Task Force and multiple environmental organizations (see Attachment 4d). The UDEQ also has recognized PacifiCorp's water quality improvement actions and provided a letter in support of PacifiCorp's effort to obtain the initial Low Impact Hydropower Institute certification (Attachment 4b).

State of Utah

ATTACHMENT 4a

DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WATER QUALITY

Norman H. Bangerter
Governor
Kenneth L. Alkema
Executive Director
Don A. Ostler, P.E.
Director

288 North 1460 West
Salt Lake City, Utah
(801 538-6146
(801) 538-6016 Fax

Reply to: State of Utah
Division of Water Quality
Department of Environmental Quality
Salt Lake City, Utah 84114-4870

November 20, 1991

RECEIVED
DEC 0 2 1991
Environmental Services

Jim Burruss, Senior Environmental Analyst
Environmental Services
Utah Power
1407 West North Temple
Salt Lake City, Utah 84140

RE: Water Quality Certification
FERC Project No. 2420
State I.D. No. UT 890822-050
Cutler Reservoir Hydroelectric Project

Dear Mr. Burruss:

We have reviewed the draft application to the Federal Energy Regulatory Commission (FERC) to relicense the Cutler Hydroelectric Project on the Bear River in northern Utah. State water quality certification is required in order to obtain a license, construct the facility, and operate the facility.

Based on our review it is our opinion that, with the implementation of applicable Best Management Practices in order to minimize the erosion-sediment load to the affected waters during project activities, the adverse environmental impact on the existing water quality of the Bear River will be minimal. We strongly support and encourage Utah Power's plans to develop a buffer strip up to 200 feet wide adjacent to Cutler Reservoir. This buffer strip will aid in reduction of shoreline erosion and removal of sediments and nutrients resulting from spring snowmelt and surrounding land management activities.

Therefore, pursuant to Section 401(a)(1) of the *Federal Water Pollution Control Act*, as amended 1987 (33 U.S.C. 466 et seq.) it is hereby certified that any discharge resultant from the Cutler Hydroelectric Project, as proposed, will comply with applicable State water quality standards and to the best of our knowledge will comply with applicable provisions of Section 301, 302, 303, 306, 307, and 311 of said *Act*.

Sincerely,

Utah Water Quality Board

Don A. Ostler

Don A. Ostler, P.E.
Executive Secretary

cc: Carolyn Wright, Office of Planning and Budget
S.A. deSousa, Director of Hydro Resources, Pacific Power

Printed on recycled paper
DAO:MKR:ph

ATTACHMENT 4b

State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

December 8, 2009

Miss Eve Davies
Pacificorp Energy
1407 West North Temple
Salt Lake City, Utah 84116

Subject: Low Impact Hydropower Certification

Dear Miss Davies:

This letter is submitted in support of PacifiCorp Energy's application to obtain low impact hydro certification for the Cutler Hydroelectric Project (FERC No. 2420) from the Low Impact Hydropower Institute (LIHI). PacifiCorp Energy has shown leadership as an environmental steward and has been a strong supporter of the Utah Division of Water Quality's (DWQ) TMDL for the Bear River and Cutler Reservoir. My letter addresses conditions related to questions B1, B2, B3, and D1 on the Cutler LIHI Questionnaire.

The Utah DWQ issued a 401 water quality certification for the Cutler Hydroelectric Project on November 20, 1991. This is the most recent water quality certification issued for the facility from DWQ. The Cutler Hydroelectric Project is in compliance with the conditions of that 401 certification.

Pursuant to section 303(d) of the Clean Water Act, the DWQ has identified Cutler Reservoir as not meeting water quality standards for total phosphorus and dissolved oxygen. The Bear River also has a TMDL for total phosphorus from the Idaho border to the outlet at the Great Salt Lake. Flow augmentation from the Cutler Hydroelectric Project may contribute to stream bank erosion but as of this letter it has not been identified as the major cause of the low dissolved oxygen or high phosphorus 303(d) listings. Agricultural runoff, effluent from municipal waste water treatment plants, industrial discharges, and other nonpoint sources have been identified as the primary sources of pollutants into the system.

Pacificorp Energy is actively managing the Cutler Reservoir through their Cutler Resource Management Plan and is taking key steps to improve water quality in the Bear River and the Cutler Reservoir via modifications to their agricultural lease program and shoreline buffers. By managing grazing leases, erecting fencing to restrict cattle access to the shoreline, and restoring vegetation along the shoreline per the Cutler Resource Management Plan, PacifiCorp has created a buffer around the reservoir that aids in the reduction of nonpoint source contributions to water

288 North 1460 West • Salt Lake City, UT
Mailing Address: P.O. Box 144870 • Salt Lake City, UT 84114-4870
Telephone (801) 538-6146 • Fax (801) 538-6016 • T.D.D. (801) 536-4414
www.deq.utah.gov

quality impairment (e.g., cattle, shoreline erosion).

Utah DWQ supports PacifiCorp Energy in their effort to obtain LIHI certification. Please feel free to contact me if you have any questions about the facility's status with the Utah Division of Water Quality.

Sincerely,

Carl Adams

Carl Adams
Division of Water Quality/TMDL Manager
Utah Department of Environmental Quality

ATTACHMENT 4c

State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

FILE COPY

OCT 0 3 2013

Eve Davis
Hydro Resources, PacifiCorp Energy
1407 West North Temple, Ste. 110
Salt Lake City, Utah 84116

Re: Approval for temporal variance from State Water Quality Standards
Water Quality Certification No.: UT 890822-050.
FERC Project No. 2420
Applicant: PacifiCorp Energy.
Project: Cutler Reservoir Dam Restoration
Purpose: To make the necessary FERC required repairs to the existing infrastructure of the dam including spill gates.
Location: The Cutler Reservoir covers approximately 10,000 acres at its average storage capacity. It is located six miles west of Logan City in Cache County, Utah.
Watershed: The 6,900-square mile Cutler Reservoir watershed, including the Middle Bear River, is part of the Bear River basin that encompasses northeastern Utah, southeastern Idaho, and southwestern Wyoming
Public Comment Period: None.

Dear Ms. Davis:

Pursuant to Section 401 of the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), the Utah Department of Environmental Quality, Division of Water Quality (DWQ) certifies it has reasonable assurances that any discharge associated with the repair to the Cutler Reservoir Dam System will not permanently violate surface water quality standards, or permanently degrade surface waters of the Bear River or Cutler Reservoir not presently meeting water quality standards. In accordance with Section 401(a) (1) of the CWA (33 U.S.C. Sec. 1341 (a) (1)), DWQ hereby issues a temporal variance to Water Quality Certification UT 890822-050 subject to your project meeting the conditions listed below.

In your September 26, 2013 letter you noted that these necessary repairs will require a large-magnitude drawdown of approximately 15 feet at Cutler Dam starting on October 7, 2013. The release may increase turbidity and cause other water quality standard violations in the Bear River below Cutler Reservoir Dam. The Bear River from Malad River to the confluence to Cutler Reservoir has the following beneficial use classifications: 2B (protected for secondary contact recreation); 3B (protected warm water fishery and aquatic life); 3D (protect for waterfowl, shore birds and aquatic life) and 4 (protected for agricultural uses including irrigation of crops and stock watering). This segment of the Bear River currently has an approved Total Maximum Daily Load (TMDL) and identifies bentho macroinvertebrates and total phosphorus (P) as sources contributing to that impairment.

Therefore, as a requirement of the temporal variance to Water Quality Certification UT 890822-050, the DWQ requests that PacifiCorp Energy implement the following conditions:

1. Notify DWQ at 801-536-4354, 48 hours prior to the initial release.
2. Use appropriate Best Management Practices (BMPs) to reduce further water quality standards violations by minimizing the erosion-sediment load to the Bear River and to any adjacent waters during dam repair activities. In addition to other serious water quality impacts, suspended sediment can potentially have a large amount of total phosphorus attached.
3. Confine all repairs to the dam infrastructure and not involve any work in the Cutler Reservoir or in the channel of the Bear River.
4. Minimize the effects on aquatic wildlife in Cutler Reservoir over the five day period with a similar discharge strategy as conducted in 2008 which is outlined in your 2013 request letter. That is, use a relatively quick discharge in the upper portion of the Reservoir, but slow the flow substantively to allow sediment and mud flats to settle as they are exposed and to reduce the turbidity to the greatest degree possible.
5. Refill Cutler Reservoir as soon as possible to minimize impacts to aquatic animals in and around the shoreline. Every effort should be taken to avoid having the water level low at the coldest part of the year, after January 2014.
6. Immediately reported to DWQ any spill or discharge of oil or other substances which may cause pollution to the waters of the State, as per Utah Code Annotated 19-5- 107.
7. Do not use any fill material which may leach organic chemicals (e.g., discarded asphalt) or nutrients (e.g., phosphate rock) immediately adjacent or into Bear River or Cutler Reservoir.
8. Obtain the following permits from the DWQ prior to the construction phase of the project, as needed:
    - Dewatering activities, if necessary during the construction, may require coverage under the UPDES General Permit for Construction Dewatering, Permit No. UTG070000. A fact sheet describing the permit application procedures are located on our web site https://secure.utah.gov/stormwater/main.html. The permit requires water quality monitoring every two weeks to ensure that the pumped water is meeting permit effluent limitations, unless the water is managed on the construction site.

    - Construction activities that disturb one acre or more are required to obtain coverage under the Utah Pollutant Discharge Elimination System (UPDES) Storm Water General Permit for Construction Activities, Permit No. UTR300000. The permit requires the development of a storm water pollution prevention plan (SWPPP) to be implemented and updated from the commencement of any soil disturbing activities at the site until final stabilization of the project. A fact sheet describing the permit application procedures are located on our web site https://secure.utah.gov/stormwater/main.html

Please contact Mr. Bill Damery at (801) 536-4354, wdamery@utah.gov with any questions you may have concerning this Water Quality Certification with Conditions.

Sincerely,

Leah Ann Lamb
Acting Director

LAL:wd/fb
File: UT 890822-050
wdamery\wp\RDCC\401 Certs New\Cutler Reservoir Dam.
cc: Grant Koford, Bear River Health Department

From: William Damery [mailto:wdamery@utah.gov]
Sent: Thursday, October 03, 2013 5:09 PM
To: Davies, Eve
Subject: FERC 401 Cert

Hi Eve,
Attached is the 401 Cert temporal variance as requested.

BIll
--
William (Bill) E. Damery, P.G.
401 WQ Certification/NEPA
Division of Water Quality, DEQ
195 North 1950 West
SLC, UT 84116
(801) 536-4354
(801) 536-4301
wdamery@utah.gov

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

SEP 22 2014

Eve Davies
Hydro Resources, PacifiCorp Energy
1407 West North Temple, Ste. 110
Salt Lake City, Utah 84116

Re: **Approval for Temporary Variance from State Water Quality Standards**
Water Quality Certification No.: UT 890822-050
FERC Project No. 2420
Applicant: PacifiCorp Energy
Project: Cutler Reservoir Dam Restoration
Purpose: To make the necessary FERC required repairs to the existing infrastructure of the dam including final coating process on the new portions of the dam spill gates.
Location: The Cutler Reservoir covers approximately 10,000 acres at its average storage capacity. It is located six miles west of Logan City in Cache County, Utah.
Watershed: The 6,900-square mile Cutler Reservoir watershed, including the Middle Bear River, is part of the Bear River basin that encompasses northeastern Utah, southeastern Idaho, and southwestern Wyoming
Public Comment Period: None.

Dear Ms. Davies:

Pursuant to Section 401 of the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA), the Director of the Division of Water Quality (DWQ) certifies that he has reasonable assurances that any discharge associated with the repair to the Cutler Reservoir Dam System will not permanently violate surface water quality standards, or permanently degrade surface waters of the Bear River or Cutler Reservoir not presently meeting water quality standards. In accordance with Section 401(a)(1) of the CWA (33 U.S.C. Sec. 1341(a)(1)), DWQ hereby issues a temporary variance to Water Quality Certification UT 890822-050 subject to the conditions outlined below be met.

In your August 29, 2014 request letter you noted that these necessary repairs will require a large-magnitude drawdown of approximately 15 feet at Cutler Dam starting on October 20, 2014. The release may increase turbidity and cause other water quality standard violations in the Bear River below Cutler Reservoir Dam. The Bear River from Malad River to the confluence to Cutler Reservoir has the following beneficial use classifications: 2B (protected for secondary contact recreation); 3B (protected warm water fishery and aquatic life); 3D (protect for waterfowl, shore birds and aquatic life) and 4 (protected for agricultural uses including irrigation of crops and stock watering). This segment of the Bear River currently has an approved Total Maximum Daily Load (TMDL) and identifies benthic macroinvertebrates and total phosphorus (P) as one of the sources contributing to that impairment.

Therefore, as an approval for a temporary variance to Water Quality Certification UT 890822-050, the DWQ requests the following conditions:

1. Notify DWQ contact 48 hours prior to the initial release.
2. Water quality standards may not be further violated unless appropriate Best Management Practices (BMPs) are incorporated to minimize the erosion-sediment load to the Bear River and to any adjacent waters during dam repair activities. Suspended sediment can potentially have a large amount of total phosphorus attached.
3. All repairs will be confined to the dam and spill gates infrastructure and not involve any work in the Cutler Reservoir or in the channel of the Bear River.
4. To minimize the effects on aquatic wildlife in the Cutler Reservoir, your discharge strategy will be conducted as it was your in October 2013 drawdown and as is outlined in your August 29, 2014 request letter. That is, a relative quick discharge in the upper portion of the Reservoir, but slowing substantively to allow sediment and mud flats to settle as they are exposed and reducing the turbidity to the greatest extent possible by slowing the flow.
5. To minimize impacts to aquatic animals in and around the shoreline, please refill Cutler Reservoir as soon as possible. Every effort should be taken to avoid having the water level low at the coldest part of the year, after January 2015.
6. Utah Code Annotated 19-5-114 requires that any spill or discharge of oil or other substances which may cause pollution to the waters of the State must be immediately reported to the Utah DWQ.
7. The applicant shall not use any fill material which may leach organic chemicals (e.g., discarded asphalt) or nutrients (e.g., phosphate rock) immediately adjacent or into Bear River or Cutler Reservoir.

Please contact Mr. Bill Damery at (801) 536-4354, wdamery@utah.gov with any questions you may have concerning this Water Quality Certification with Conditions.

Sincerely,

Walter L. Baker, P.E.
Director

WLB:wd:jn

cc: Grant Koford, Bear River Health Department

File: UT 890822-050a wdamery\wp\RDCC\401 Certs New\Cutler Reservoir Dam.

ATTACHMENT 4d

PacifiCorp has been honored by the following organizations for stewardship of natural resources at the Cutler Hydroelectric Project:

- **National Audubon Society:** ***2008 Important Bird Area***
  The Cutler Marsh was distinguished as an Important Bird Area for providing significant habitat for avian species that are a conservation priority. The Cutler Marsh has also been nominated for "Global Status" that will be conferred in 2010 after final data confirmation that over 5% of the global population of White-faced Ibis nest at Cutler.

- **Utah Non-Point Source Task Force:** ***2007 Non-Point Source Water Quality Award***
  Given in recognition of PacifiCorp's work to reduce non-point source pollution at Cutler reservoir and on the Bear River.

- **The Nature Conservancy:** ***2006 Conservation Partnership Award***
  Awarded for PacifiCorp's efforts "to achieve biodiversity conservation" through implementation of the Cutler Resource Management Plan and other projects in Utah.

- **American Society of Landscape Architects:** ***2005 Award of Honor in Analysis and Planning***
  Given in recognition of PacifiCorp's contributions to the creation of the Bear River Greenway Master Plan and Bear River Ecological Corridor Restoration.

- **Society for Range Management:** ***2001 Rangeland Excellence Award***
  Awarded for "Innovative Management and Stewardship for Cutler Reservoir Resource Area."

- **Bridgerland Audubon Society:** ***2000 Allen Stokes Conservation Award***
  PacifiCorp was honored with the organization's highest land conservation award for implementation of the Cutler Resource Management Plan.

The Cutler project has also been previously nominated by third parties for the United States Fish and Wildlife Service's *Wetland Reclamation Award* and the Ecological Society of America's *Corporate Stewardship Award.*

ATTACHMENT 4e

CHAPTER 6 303(D) LIST OF LAKES AND RESERVOIRS

2014 Integrated Report

UTAH DIVISION OF WATER QUALITY

Table 1. Impaired waterbodies due to fish advisories

Assessment Units That Have Fish Consumption Advisories for Mercury Unless Otherwise Noted		
Watershed	**Assessment Unit ID**	**Assessment Unit Name**
Bear River	UT-L-16010203-009	Porcupine Reservoir
Cedar / Beaver River	UT-L-16030006-008	Newcastle Reservoir
Cedar / Beaver River	UT-L-16030006-002	Upper Enterprise Reservoir
Colorado River West	UT-L-14060009-017	Joes Valley Reservoir
Colorado River West	UT14070005-007	Calf Creek
Colorado River West	UT14070005-004	Pine Creek
Colorado River Southeast	UT-L-14080201-007	Recapture Reservoirs
Jordan River / Utah Lake	UT-L-16020203-003	Jordanelle Reservoir
Jordan River / Utah Lake	UT-L-16020201-004	Utah Lake (PCBs)
Lower Colorado River	UT-L-15010008-001	Gunlock Reservoir
Lower Colorado River	UT-L-15010008-025	Sand Hollow Reservoir
Lower Colorado River	UT-L-15010008-024	Quail Creek Reservoir

Assessment Units That Have Fish Consumption Advisories for Mercury Unless Otherwise Noted		
Sevier River	UT16030002-005	East Fork Sevier-4
Sevier River	UT-L-16030003-007	Sevier Bridge Reservoir (Yuba)
Colorado River Southeast	UT14030005-005	Mill Creek-1
Colorado River Southeast	UT-L-14070006-001	Lake Powell
Uinta Basin	UT-L-14060001-002	Brough Reservoir
Uinta Basin	UT14060003-017	Duchesne River-4
Uinta Basin	UT14060002-001	Lower Ashley Creek (selenium)
Uinta Basin	UT-L-14060002-006	Red Fleet Reservoir
Uinta Basin	UT-L-14060002-004	Steinaker Reservoir
Uinta Basin	UT14060005-008	Rock Creek
Uinta Basin	UT14060005-009	Green River-3
Weber River	UT16020102-022	Weber River-6
Weber River	UT16020101-020	Silver Creek (arsenic)
Weber River	UT-L-16020101-002	Rockport Reservoir

Table 2. 303(d) List of Impaired Lakes and Reservoirs 2012 IR cycle

State: UT **05/30/2014** **Cycle: 2012**

AU ID	AU Name	Water Type	Size	Location Description
UT-L-14040106-016_00	Sheep Creek Lake	FRESHWATER LAKE	86 ACRES	LL= 405322/1095059 2N 18E 23,24 USGS MAP AND DATE: JESSON-BUTTE, UTAH-WYOMING-1963 WATERSHED: BEAVER CREEK
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040106-033_00	Matt Warner Reservoir	FRESHWATER LAKE	297 ACRES	HUC: 14040106, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040106-034_00	Calder Reservoir	FRESHWATER RESERVOIR	99 ACRES	HUC: 14040106, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040107-004_00	Bridger Lake	FRESHWATER LAKE	21 ACRES	LL= 405842/1102307 3N 13E 17,18,19 USGS MAP AND DATE: BRIDGER LAKE UTAH-WYOMING-1967 WATERSHED: EAST FORK SMITH'S FORK, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	High Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**

UT-L-14040107-005_00	Lyman Lake	FRESHWATER LAKE	27 ACRES	HUC: 14040107 WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040107-006_00	China Lake	FRESHWATER LAKE	31 ACRES	HUC: 14040107, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water	2006 2008	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060001-001_00	Pelican Lake	FRESHWATER LAKE	1680 ACRES	LL= 401142/1094052 7S 20E 19,20,21,28,29 USGS MAP AND DATE: PELICAN LAKE, UTAH-1964 WATERSHED: LAKE CANAL, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH Phosphorus (Total)	2004 2012	Low Priority	Warm Water Aquatic Life Warm Water Aquatic Life	☐ Livestock (Grazing or Feeding Operations) ☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060001-002_00	Brough Reservoir	FRESHWATER RESERVOIR	128 ACRES	HUC: 14060001, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060002-004_00	Steinaker Reservoir	FRESHWATER LAKE	829 ACRES	LL= 403058/1093152 3,4S 21E 26,34,35,,2,3 USGS MAP AND DATE: STEINAKER RESERVOIR,

				UTAH-1978 WATERSHED: STEINAKER FEEDER CANAL, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060002-006_00	Red Fleet Reservoir	FRESHWATER LAKE	520 ACRES	HUC: 14060002, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060003-230_00	Big Sand Wash Reservoir	FRESHWATER LAKE	390 ACRES	LL= 401802/1101317 2S 3N 9,15,16,21,22 USGS MAP AND DATE: BLUEBELL, UTAH-1965 WATERSHED: BIG SAND WASH, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water	2010 2010	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060004-006_00	Starvation Reservoir	FRESHWATER LAKE	2760 ACRES	LL= 401100/1102800 3,4S 5,6W 1-3,6,14-16,21,22,25,28,29-31,33,36 USGS MAP AND DATE: DUCHESNE, UTAH 1965 WATERSHED: STRAWBERRY RIVER, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water	2008 2012	Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**

UT-L-14060007-004_00	Lower Gooseberry Reservoir	FRESHWATER LAKE	57 ACRES	LL= 394230/1111730 13S 6E 6,7 USGS MAP AND DATE: FAIRVIEW LAKES, UTAH-1978 WATERSHED: GOOSEBERRY CREEK , WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Managed Pasture Grazing ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing ☐ Source Unknown
pH	1992	Low Priority	Cold Water Aquatic Life	
Phosphorus (Total)	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14070003-015_00	Mill Meadow Reservoir	FRESHWATER LAKE	156 ACRES	LL= 383024/1113353 26N 3E 27,34,35 USGS MAP AND DATE: FORSYTH RESERVOIR, UTAH-1968 WATERSHED: UM CREEK, WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH, High	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14070003-044_00	Lower Bowns Reservoir	FRESHWATER LAKE	90 ACRES	LL= 380635/1111612 31S 6E 17 USGS MAP AND DATE: GROVER 15' QUAD.-1952 WATERSHED: OAK CREEK; WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2010	Low Priority	Cold Water Aquatic Life	☐ Rangeland Grazing
Temperature, water	2012		Cold Water Aquatic Life	
pH	2006	Low Priority	Cold Water Aquatic Life	
Phosphorus (Total)	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14070005-	Wide Hollow	FRESHWATER LAKE	145 ACRES	LL= 374714/1113813 35S 2E 1,2,12 USGS MAP

011_00	Reservoir			AND DATE: WIDE HOLLOW RESERVOIR, UTAH, QUAD-1964 WATERSHED: ESCALANTE RIVER, WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14080201-002_00	BLANDING CITY RESERVOIR	FRESHWATER LAKE	32 ACRES	LL=374015/1093000 36S 22E 9 MAP AND DATE: D.O.T. GENERAL HIGHWAY MAP, SHEET NO.4 WATERSHED: WEST WATER CREEK (CULINARY SOURCE)
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14080203-002_00	MONTICELLO LAKE	FRESHWATER LAKE	3 ACRES	LL= 375340/1092800 33S 22E 23 USGS MAP AND DATE: MONTICELLO, UTAH-1957 WATERSHED: SPRING CREEK, WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2006	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010202-013_00	NEWTON RESERVOIR	FRESHWATER LAKE	350 ACRES	LL= 415414/1105853 13,14N 1,2W 9,31,32,36 USGS MAP AND DATE: TRENTON, UTAH-1964 WATERSHED: CLARKSTON CREEK, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2006	Low Priority	Cold Water Aquatic Life	☐ Natural Sources
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010203-005_00	Hyrum Reservoir	FRESHWATER LAKE	438 ACRES	LL= 413714/1115128 10N 1E 7,8 USGS MAP AND DATE: PARADISE-1955 WATERSHED: LITTLE BEAR

				RIVER, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1994	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010203-009_00	Porcupine Reservoir	FRESHWATER LAKE	190 ACRES	LL= 413110/1114408 9N 2E 16,17 USGS MAP AND DATE: PORCUPINE RESERVOIR 1969 WATERSHED: E. FORK LITTLE BEAR
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008		Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010203-012_00	Tony Grove Lake	FRESHWATER LAKE	25 ACRES	LL= 415335/1113825 13N 3E 5 USGS MAP AND DATE: NAOMI PEAK, UTAH-1969 WATERSHED: TONY GROVE CREEK, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water pH	2006 2006 2006	Low Priority Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010204-033_00	Mantua Reservoir	FRESHWATER LAKE	554 ACRES	LL= 413012/1115557 9N 1W 22,23 USGS MAP AND DATE: MOUNT PISGAH 1969 WATERSHED: MAPLE CREEK, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020101-	Echo Reservoir	FRESHWATER LAKE	1394 ACRES	LL= 405700/1112419 2N,3N 5E

001_00				29,30,31,32,5,8,17 USGS MAP AND DATE: COALVILLE, UTAH 1967 WATERSHED: WEBER RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water Phosphorus (Total)	2006 2012 1994	High Priority High Priority	Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life	☐ Animal Feeding Operations (NPS) ☐ Combined Sewer Overflows ☐ Irrigated Crop Production ☐ Managed Pasture Grazing ☐ Mine Tailings ☐ Municipal Point Source Discharges ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing ☐ Septage Disposal ☐ Site Clearance (Land Development or Redevelopment) ☐ Unspecified Urban Stormwater
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020101-002_00	Rockport Reservoir	FRESHWATER LAKE	1189 ACRES	LL= 404364/1112343 1N,1S 5E 28,29,33,32,4,5,9,10 USGS MAP AND DATE: WANSHIP, UTAH-1967 WATERSHED: WEBER RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water	2006 2012	Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020102-014_00	Pineview Reservoir	FRESHWATER RESERVOIR	2874 ACRES	LL= 411600/1114828 6N 1,2E 1-3,7,10-16,18,19 USGS MAP AND DATE: HUNTSVILLE,1975 WATERSHED: OGDEN RIVER, WMU Weber River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1994	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**

UT-L-16020102-020_00	East Canyon Reservoir	FRESHWATER LAKE	684 ACRES	LL= 405420/1113520 2N 3E 3,10,11,14,15,22,23,26 USGS MAP AND DATE: EAST CANYON RESERVOIR-1975 WATERSHED: EAST CANYON CREEK, WMU Weber River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020201-004_00	Utah Lake	FRESHWATER LAKE	96900 ACRES	LL= 401145/1114733 5,6,7,8,9S 1W,1,2,3E USGS MAP AND DATE: PELICAN POINT,1975 WATERSHED: JORDAN RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Total Dissolved Solids	2006	Medium Priority	Agricultural	☐ Highways, Roads, Bridges, Infrastructure (New Construction)
Phosphorus (Total)	1994	Medium Priority	Warm Water Aquatic Life	☐ Industrial Point Source Discharge ☐ Municipal Point Source Discharges
PCB in Fish Tissue	2010	Low Priority	Warm Water Aquatic Life	☐ Source Unknown ☐ Unspecified Urban Stormwater ☐ Animal Feeding Operations (NPS) ☐ Irrigated Crop Production ☐ Managed Pasture Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020201-007_00	Big East Lake	FRESHWATER LAKE	23 ACRES	LL= 395605/1113821 10S 3E 19 USGS MAP AND DATE: PAYSON LAKES, UTAH-1979 WATERSHED: PETEETNEET CREEK, WMU Jordan River/Utah Lake
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	High Priority	Cold Water Aquatic Life	
Temperature, water	2012		Cold Water Aquatic Life	
Phosphorus (Total)	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**

UT-L-16020203-001_00	Deer Creek Reservoir	FRESHWATER LAKE	2965 ACRES	LL= 402445/1113258 4,5S 4E 3,4,5,6,10,15,22,27,28,32,33 USGS MAP AND DATE: CHARLESTON,1966 WATERSHED: PROVO RIVER, WMU Jordan River/Utah Lake
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020203-004_00	MILL HOLLOW RESERVOIR	FRESHWATER LAKE	15 ACRES	LL= 403922/1105356 4S 7E 12 USGS MAP AND DATE: WOLF CREEK SUMMIT, UTAH-1967 WATERSHED: MILL HOLLOW, WMU Jordan River/Utah Lake
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH Phosphorus (Total)	1992 1992	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Grazing in Riparian or Shoreline Zones ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030001-001_00	Navajo Lake	FRESHWATER LAKE	714 ACRES	LL= 373118/1124536 38S 8,9W 8,7,9,12 USGS MAP AND DATE: CEDAR BREAKS, UTAH-1958, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Grazing in Riparian or Shoreline Zones ☐ Managed Pasture Grazing ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030001-011_00	Piute Reservoir	FRESHWATER RESERVOIR	2508 ACRES	LL= 381722/1121226 28,29S 2,3N 3,4,9,10,16,17,21,22,27,28,34 USGS MAP AND DATE: MARYSVALE, UTAH 1945 WATERSHED: SEVIER RIVER

Cause	Cycle First Listed	TMDL Status	Use	Source
Temperature, water Phosphorus (Total)	2010 2006	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Aquaculture (Permitted) ☐ Managed Pasture Grazing ☐ Other Recreational Pollution Sources
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030002-004_00	Otter Creek Reservoir	FRESHWATER RESERVOIR	2520 ACRES	LL= 381252/1115917 29,30S 2W 10,11,12,14,15,21,22,27,28,35,36 USGS MAP AND DATE: PHONOLITE HILL, UTAH 1971, ANGLE,UTAH 1970 WATERSHED: OTTER CREEK, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water pH	1994 2006	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030002-005_00	Lower Box Creek Reservoir	FRESHWATER LAKE	50 ACRES	TOWNSHIP: 27S RANGE: 2W SECTION: 9,10 USGS MAP AND DATE: GREENWICH, UTAH-1969 WATERSHED: BOX CREEK; WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2010	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030003-006_00	Manning Meadow Reservoir	FRESHWATER LAKE	59 ACRES	TOWNSHIP: 27S RANGE: 2.5W SECTION: 1 USGS MAP AND DATE: MARYSVALE, UTAH-9145 WATERSHED: MANNING CREEK, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Phosphorus (Total)	2006 1994	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Managed Pasture Grazing ☐ Rangeland Grazing

AU ID	AU Name	Water Type	Size	Location Description
UT-L-16030004-001_00	Ninemile Reservoir	FRESHWATER LAKE	197 ACRES	LL= 391030/1114230 19S 2E 8,9 USGS MAP AND DATE: STERLING, UTAH-1966 WATERSHED: HIGHLAND CANAL, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Grazing in Riparian or Shoreline Zones ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing ☐ Silviculture Plantation Management
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
pH	2008	Low Priority	Cold Water Aquatic Life	
Phosphorus (Total)	2006	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030004-005_00	Palisade Lake	FRESHWATER LAKE	66 ACRES	LL= 391200/1114030 18S 2E 34,35 USGS MAP AND DATE: STERLING, UTAH-1966 WATERSHED: LAKE CANAL, WMU
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1992	High Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-002_00	Upper Enterprise Reservoir	FRESHWATER LAKE	200 ACRES	LL= 373105/1135220 37,38S 18W 33,34,3,4 USGS MAP AND DATE: HEBRON, UTAH-1972, WATER CANYON PEAK, UTAH-1972 WATERSHED: LITTLW PINE CREEK
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-008_00	NEWCASTLE RESERVOIR	FRESHWATER LAKE	163 ACRES	LL= 373858/1133115 36S 15W 22,27 USGS MAP AND DATE: NEWCASTLE,UTAH-1972 WATERSHED: PINTO CREEK,

Cause	Cycle First Listed	TMDL Status	Use	Source
Temperature, water	2012		Cold Water Aquatic Life	
Mercury in Fish Tissue	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-017_00	Yankee Meadow Reservoir	FRESHWATER LAKE	53 ACRES	TOWNSHIP: 35S RANGE: 8W SECTION: 20 USGS MAP AND DATE: PAROWAN, UTAH-1971 WATERSHED: BOWERY CREEK,
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-019_00	Red Creek Reservoir (Iron County)	FRESHWATER RESERVOIR	62 ACRES	TOWNSHIP: 34S RANGE: 7W SECTION: 7,18 USGS MAP AND DATE: RED CREEK RESERVOIR, UTAH-1971 WATERSHED: RED CREEK
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Phosphorus (Total)	2006	High Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030007-011_00	Minersville Reservoir	FRESHWATER LAKE	990 ACRES	LL= 381408/1124848 29,30S 8,9W 1,2,11,25,30,31,36 USGS MAP AND DATE: MINERSVILLE, UTAH 1958 WATERSHED: BEAVER RIVER, WMU Beaver/Cedar Rivers
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1994	Low Priority	Cold Water Aquatic Life	☐ Natural Sources ☐ Post-development Erosion and Sedimentation
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030007-025_00	Three Creeks Reservoir	FRESHWATER LAKE	57 ACRES	LL= 381745/1122515 29S 5W 9 USGS MAP AND DATE: DELANO PEAK, UTAH-1943 WATERSHED: LAKE STREAM

Cause	Cycle First Listed	TMDL Status	Use	Source
pH	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown

Table 3. 2014 Lakes and Reservoirs 303(d) List of impaired waters 2014 IR cycle

State: UT **05/30/2014** **Cycle: 2014**

AU ID	AU Name	Water Type	Size	Location Description
UT-L-14040106-016_00	Sheep Creek Lake	FRESHWATER LAKE	86 ACRES	LL= 405322/1095059 2N 18E 23,24 USGS MAP AND DATE: JESSON-BUTTE, UTAH-WYOMING-1963 WATERSHED: BEAVER CREEK
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040106-033_00	Matt Warner Reservoir	FRESHWATER LAKE	297 ACRES	HUC: 14040106, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040106-034_00	Calder Reservoir	FRESHWATER RESERVOIR	99 ACRES	HUC: 14040106, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040107-004_00	Bridger Lake	FRESHWATER LAKE	21 ACRES	LL= 405842/1102307 3N 13E 17,18,19 USGS MAP AND DATE: BRIDGER LAKE UTAH-WYOMING-1967 WATERSHED: EAST FORK SMITH'S FORK, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**

Oxygen, Dissolved	2006	High Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040107-005_00	Lyman Lake	FRESHWATER LAKE	27 ACRES	HUC: 14040107 WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14040107-006_00	China Lake	FRESHWATER LAKE	31 ACRES	HUC: 14040107, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water	2006 2008	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060001-001_00	Pelican Lake	FRESHWATER LAKE	1680 ACRES	LL= 401142/1094052 7S 20E 19,20,21,28,29 USGS MAP AND DATE: PELICAN LAKE, UTAH-1964 WATERSHED: LAKE CANAL, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH Phosphorus (Total)	2004 2012	Low Priority	Warm Water Aquatic Life Warm Water Aquatic Life	☐ Livestock (Grazing or Feeding Operations) ☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060001-002_00	Brough Reservoir	FRESHWATER RESERVOIR	128 ACRES	HUC: 14060001, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	☐ Source Unknown

AU ID	AU Name	Water Type	Size	Location Description
UT-L-14060002-004_00	Steinaker Reservoir	FRESHWATER LAKE	829 ACRES	LL= 403058/1093152 3,4S 21E 26,34,35,,2,3 USGS MAP AND DATE: STEINAKER RESERVOIR, UTAH-1978 WATERSHED: STEINAKER FEEDER CANAL, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060002-006_00	Red Fleet Reservoir	FRESHWATER LAKE	520 ACRES	HUC: 14060002, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060003-230_00	Big Sand Wash Reservoir	FRESHWATER LAKE	390 ACRES	LL= 401802/1101317 2S 3N 9,15,16,21,22 USGS MAP AND DATE: BLUEBELL, UTAH-1965 WATERSHED: BIG SAND WASH, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2010	Low Priority	Cold Water Aquatic Life	
Temperature, water	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060004-006_00	Starvation Reservoir	FRESHWATER LAKE	2760 ACRES	LL= 401100/1102800 3,4S 5,6W 1-3,6,14-16,21,22,25,28,29-31,33,36 USGS MAP AND DATE: DUCHESNE, UTAH 1965 WATERSHED: STRAWBERRY RIVER, WMU Uinta Basin
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2008	Low Priority	Cold Water Aquatic Life	

Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14060007-004_00	Lower Gooseberry Reservoir	FRESHWATER LAKE	57 ACRES	LL= 394230/1111730 13S 6E 6,7 USGS MAP AND DATE: FAIRVIEW LAKES, UTAH-1978 WATERSHED: GOOSEBERRY CREEK , WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved pH Phosphorus (Total)	2006 1992 2010	Low Priority Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life	☐ Managed Pasture Grazing ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing ☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14070003-015_00	Mill Meadow Reservoir	FRESHWATER LAKE	156 ACRES	LL= 383024/1113353 26N 3E 27,34,35 USGS MAP AND DATE: FORSYTH RESERVOIR, UTAH-1968 WATERSHED: UM CREEK, WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH, High	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14070003-044_00	Lower Bowns Reservoir	FRESHWATER LAKE	90 ACRES	LL= 380635/1111612 31S 6E 17 USGS MAP AND DATE: GROVER 15' QUAD.-1952 WATERSHED: OAK CREEK; WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water pH Phosphorus (Total)	2010 2012 2006 2012	Low Priority Low Priority 	Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life	☐ Rangeland Grazing

AU ID	AU Name	Water Type	Size	Location Description
UT-L-14070005-011_00	Wide Hollow Reservoir	FRESHWATER LAKE	145 ACRES	LL= 374714/1113813 35S 2E 1,2,12 USGS MAP AND DATE: WIDE HOLLOW RESERVOIR, UTAH, QUAD-1964 WATERSHED: ESCALANTE RIVER, WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2010	Medium Priority	Cold Water Aquatic Life	☐ Source Unknown
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	
pH	2008	Low Priority	Cold Water Aquatic Life	
Phosphorus (Total)	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14080201-002_00	BLANDING CITY RESERVOIR	FRESHWATER LAKE	32 ACRES	LL=374015/1093000 36S 22E 9 MAP AND DATE: D.O.T. GENERAL HIGHWAY MAP, SHEET NO.4 WATERSHED: WEST WATER CREEK (CULINARY SOURCE)
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-14080203-002_00	MONTICELLO LAKE	FRESHWATER LAKE	3 ACRES	LL= 375340/1092800 33S 22E 23 USGS MAP AND DATE: MONTICELLO, UTAH-1957 WATERSHED: SPRING CREEK, WMU Colorado River West
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2006	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010202-013_00	NEWTON RESERVOIR	FRESHWATER LAKE	350 ACRES	LL= 415414/1105853 13,14N 1,2W 9,31,32,36 USGS MAP AND DATE: TRENTON, UTAH-1964

				WATERSHED: CLARKSTON CREEK, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2006	Low Priority	Cold Water Aquatic Life	☐ Natural Sources
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010203-005_00	Hyrum Reservoir	FRESHWATER LAKE	438 ACRES	LL= 413714/1115128 10N 1E 7,8 USGS MAP AND DATE: PARADISE-1955 WATERSHED: LITTLE BEAR RIVER, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1994	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010203-009_00	Porcupine Reservoir	FRESHWATER LAKE	190 ACRES	LL= 413110/1114408 9N 2E 16,17 USGS MAP AND DATE: PORCUPINE RESERVOIR 1969 WATERSHED: E. FORK LITTLE BEAR
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008		Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010203-012_00	Tony Grove Lake	FRESHWATER LAKE	25 ACRES	LL= 415335/1113825 13N 3E 5 USGS MAP AND DATE: NAOMI PEAK, UTAH-1969 WATERSHED: TONY GROVE CREEK, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
Temperature, water	2006	Low Priority	Cold Water Aquatic Life	
pH	2006	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16010204-	Mantua	FRESHWATER LAKE	554 ACRES	LL= 413012/1115557 9N 1W 22,23 USGS MAP

033_00	Reservoir			AND DATE: MOUNT PISGAH 1969 WATERSHED: MAPLE CREEK, WMU Bear River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2008	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020101-001_00	Echo Reservoir	FRESHWATER LAKE	1394 ACRES	LL= 405700/1112419 2N,3N 5E 29,30,31,32,5,8,17 USGS MAP AND DATE: COALVILLE, UTAH 1967 WATERSHED: WEBER RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water Phosphorus (Total)	2006 2012 1994	High Priority High Priority	Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life	☐ Animal Feeding Operations (NPS) ☐ Combined Sewer Overflows ☐ Irrigated Crop Production ☐ Managed Pasture Grazing ☐ Mine Tailings ☐ Municipal Point Source Discharges ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing ☐ Septage Disposal ☐ Site Clearance (Land Development or Redevelopment) ☐ Unspecified Urban Stormwater
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020101-002_00	Rockport Reservoir	FRESHWATER LAKE	1189 ACRES	LL= 404364/1112343 1N,1S 5E 28,29,33,32,4,5,9,10 USGS MAP AND DATE: WANSHIP, UTAH-1967 WATERSHED: WEBER RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water	2006 2012	Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**

UT-L-16020102-014_00	Pineview Reservoir	FRESHWATER RESERVOIR	2874 ACRES	LL= 411600/1114828 6N 1,2E 1-3,7,10-16,18,19 USGS MAP AND DATE: HUNTSVILLE,1975 WATERSHED: OGDEN RIVER, WMU Weber River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1994	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020102-020_00	East Canyon Reservoir	FRESHWATER LAKE	684 ACRES	LL= 405420/1113520 2N 3E 3,10,11,14,15,22,23,26 USGS MAP AND DATE: EAST CANYON RESERVOIR-1975 WATERSHED: EAST CANYON CREEK, WMU Weber River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020201-004_00	Utah Lake	FRESHWATER LAKE	96900 ACRES	LL= 401145/1114733 5,6,7,8,9S 1W,1,2,3E USGS MAP AND DATE: PELICAN POINT,1975 WATERSHED: JORDAN RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Total Dissolved Solids Phosphorus (Total) PCB in Fish Tissue	2006 1994 2010	Medium Priority Medium Priority Low Priority	Agricultural Warm Water Aquatic Life Warm Water Aquatic Life	☐ Highways, Roads, Bridges, Infrastructure (New Construction) ☐ Industrial Point Source Discharge ☐ Municipal Point Source Discharges ☐ Source Unknown ☐ Unspecified Urban Stormwater ☐ Animal Feeding Operations (NPS) ☐ Irrigated Crop Production ☐ Managed Pasture Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020201-007_00	Big East Lake	FRESHWATER LAKE	23 ACRES	LL= 395605/1113821 10S 3E 19 USGS MAP AND DATE: PAYSON LAKES, UTAH-1979 WATERSHED: PETEETNEET CREEK, WMU Jordan River/Utah Lake

Cause	Cycle First Listed	TMDL Status	Use	Source
Oxygen, Dissolved	2006	High Priority	Cold Water Aquatic Life	
Temperature, water	2012		Cold Water Aquatic Life	
Phosphorus (Total)	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020203-001_00	Deer Creek Reservoir	FRESHWATER LAKE	2965 ACRES	LL= 402445/1113258 4,5S 4E 3,4,5,6,10,15,22,27,28,32,33 USGS MAP AND DATE: CHARLESTON,1966 WATERSHED: PROVO RIVER, WMU Jordan River/Utah Lake
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16020203-004_00	MILL HOLLOW RESERVOIR	FRESHWATER LAKE	15 ACRES	LL= 403922/1105356 4S 7E 12 USGS MAP AND DATE: WOLF CREEK SUMMIT, UTAH-1967 WATERSHED: MILL HOLLOW, WMU Jordan River/Utah Lake
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	1992	Low Priority	Cold Water Aquatic Life	☐ Grazing in Riparian or Shoreline Zones ☐ Other Recreational Pollution Sources
Phosphorus (Total)	1992	Low Priority	Cold Water Aquatic Life	☐ Rangeland Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030001-001_00	Navajo Lake	FRESHWATER LAKE	714 ACRES	LL= 373118/1124536 38S 8,9W 8,7,9,12 USGS MAP AND DATE: CEDAR BREAKS, UTAH-1958, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2006	Low Priority	Cold Water Aquatic Life	☐ Grazing in Riparian or Shoreline Zones ☐ Managed Pasture Grazing

				☐ Other Recreational Pollution Sources ☐ Rangeland Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030001-011_00	Piute Reservoir	FRESHWATER RESERVOIR	2508 ACRES	LL= 381722/1121226 28,29S 2,3N 3,4,9,10,16,17,21,22,27,28,34 USGS MAP AND DATE: MARYSVALE, UTAH 1945 WATERSHED: SEVIER RIVER
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water Phosphorus (Total)	2010 2006	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Aquaculture (Permitted) ☐ Managed Pasture Grazing ☐ Other Recreational Pollution Sources
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030002-004_00	Otter Creek Reservoir	FRESHWATER RESERVOIR	2520 ACRES	LL= 381252/1115917 29,30S 2W 10,11,12,14,15,21,22,27,28,35,36 USGS MAP AND DATE: PHONOLITE HILL, UTAH 1971, ANGLE,UTAH 1970 WATERSHED: OTTER CREEK, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water pH	1994 2006	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030002-005_00	Lower Box Creek Reservoir	FRESHWATER LAKE	50 ACRES	TOWNSHIP: 27S RANGE: 2W SECTION: 9,10 USGS MAP AND DATE: GREENWICH, UTAH-1969 WATERSHED: BOX CREEK; WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2010	Low Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**

UT-L-16030003-006_00	Manning Meadow Reservoir	FRESHWATER LAKE	59 ACRES	TOWNSHIP: 27S RANGE: 2.5W SECTION: 1 USGS MAP AND DATE: MARYSVALE, UTAH-9145 WATERSHED: MANNING CREEK, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Phosphorus (Total)	2006 1994	Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life	☐ Managed Pasture Grazing ☐ Rangeland Grazing
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030004-001_00	Ninemile Reservoir	FRESHWATER LAKE	197 ACRES	LL= 391030/1114230 19S 2E 8,9 USGS MAP AND DATE: STERLING, UTAH-1966 WATERSHED: HIGHLAND CANAL, WMU Sevier River
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved Temperature, water pH Phosphorus (Total)	2006 2008 2008 2006	Low Priority Low Priority Low Priority Low Priority	Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life Cold Water Aquatic Life	☐ Grazing in Riparian or Shoreline Zones ☐ Other Recreational Pollution Sources ☐ Rangeland Grazing ☐ Silviculture Plantation Management
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030004-005_00	Palisade Lake	FRESHWATER LAKE	66 ACRES	LL= 391200/1114030 18S 2E 34,35 USGS MAP AND DATE: STERLING, UTAH-1966 WATERSHED: LAKE CANAL, WMU
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	1992	High Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-002_00	Upper Enterprise Reservoir	FRESHWATER LAKE	200 ACRES	LL= 373105/1135220 37,38S 18W 33,34,3,4 USGS MAP AND DATE: HEBRON, UTAH-1972, WATER CANYON PEAK, UTAH-1972 WATERSHED: LITTLW PINE CREEK

Cause	Cycle First Listed	TMDL Status	Use	Source
Temperature, water	2012		Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-008_00	NEWCASTLE RESERVOIR	FRESHWATER LAKE	163 ACRES	LL= 373858/1133115 36S 15W 22,27 USGS MAP AND DATE: NEWCASTLE,UTAH-1972 WATERSHED: PINTO CREEK,
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Temperature, water	2012		Cold Water Aquatic Life	
Mercury in Fish Tissue	2010	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-017_00	Yankee Meadow Reservoir	FRESHWATER LAKE	53 ACRES	TOWNSHIP: 35S RANGE: 8W SECTION: 20 USGS MAP AND DATE: PAROWAN, UTAH-1971 WATERSHED: BOWERY CREEK,
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Oxygen, Dissolved	2008	Low Priority	Cold Water Aquatic Life	
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030006-019_00	Red Creek Reservoir (Iron County)	FRESHWATER RESERVOIR	62 ACRES	TOWNSHIP: 34S RANGE: 7W SECTION: 7,18 USGS MAP AND DATE: RED CREEK RESERVOIR, UTAH-1971 WATERSHED: RED CREEK
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
Phosphorus (Total)	2006	High Priority	Cold Water Aquatic Life	☐ Source Unknown
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030007-011_00	Minersville Reservoir	FRESHWATER LAKE	990 ACRES	LL= 381408/1124848 29,30S 8,9W 1,2,11,25,30,31,36 USGS MAP AND DATE: MINERSVILLE, UTAH 1958 WATERSHED: BEAVER RIVER, WMU Beaver/Cedar Rivers

Cause	Cycle First Listed	TMDL Status	Use	Source
Temperature, water	1994	Low Priority	Cold Water Aquatic Life	☐ Natural Sources ☐ Post-development Erosion and Sedimentation
AU ID	**AU Name**	**Water Type**	**Size**	**Location Description**
UT-L-16030007-025_00	Three Creeks Reservoir	FRESHWATER LAKE	57 ACRES	LL= 381745/1122515 29S 5W 9 USGS MAP AND DATE: DELANO PEAK, UTAH-1943 WATERSHED: LAKE STREAM
Cause	**Cycle First Listed**	**TMDL Status**	**Use**	**Source**
pH	2006	Low Priority	Cold Water Aquatic Life	☐ Source Unknown

Table 4. 2012 Lakes and Reservoirs Assessment Unit-Cause Combinations Removed from 303(d) List (no new de-listings in 2014 IR)

State: UT **05/30/2014** **Cycle: 2012**

Assessment Unit	AU Name	Location Description	Water Type	Size	Cause	Reason for Removal	Delisting Comment
UT-L-14040106-019_00	Browne Lake	LL= 405156/ 1094848 2N 19E 31,32 USGS MAP AND DATE: LEIDY PEAK, UTAH-1963 WATERSHED: BEAVER CREEK, WMU Uinta Basin	Freshwater Reservoir	54 Acres	Oxygen, Dissolved	Applicable WQS attained; due to restoration activities	N/A
UT-L-14040106-019_00	Browne Lake	LL= 405156/ 1094848 2N 19E 31,32 USGS MAP AND DATE: LEIDY PEAK, UTAH-1963 WATERSHED: BEAVER CREEK, WMU Uinta Basin	Freshwater Reservoir	54 Acres	Phosphorus (Total)	Applicable WQS attained; due to restoration activities	N/A
UT-L-14040107-003_00	Marsh Lake	LL= 405729/1102342 3N 14E 30,31 USGS MAP AND DATE: BRIDGER LAKE, UTAH-1967 WATERSHED: UNNAMED TRIBUTARY TO E. FORK SMITH'S FORK, WMU Uinta Basin	FRESHWATER LAKE	38 ACRES	Oxygen, Dissolved	Applicable WQS attained; reason for recovery unspecified	N/A
UT-L-14060002-004_00	Steinaker Reservoir	LL= 403058/1093152 3,4S 21E 26,34,35,,2,3 USGS MAP AND DATE: STEINAKER RESERVOIR, UTAH-1978 WATERSHED: STEINAKER FEEDER CANAL, WMU Uinta Basin	Freshwater Lake	829 Acres	Oxygen, Dissolved	Applicable WQS attained; due to restoration activities	N/A

UT-L-14070005-011_00	Wide Hollow Reservoir	LL= 374714/1113813 35S 2E 1,2,12 USGS MAP AND DATE: WIDE HOLLOW RESERVOIR, UTAH, QUAD-1964 WATERSHED: ESCALANTE RIVER, WMU Colorado River West	FRESHWATER LAKE	145 ACRES	Oxygen, Dissolved	Applicable WQS attained; reason for recovery unspecified	N/A
UT-L-14070005-011_00	Wide Hollow Reservoir	LL= 374714/1113813 35S 2E 1,2,12 USGS MAP AND DATE: WIDE HOLLOW RESERVOIR, UTAH, QUAD-1964 WATERSHED: ESCALANTE RIVER, WMU Colorado River West	FRESHWATER LAKE	145 ACRES	pH	Applicable WQS attained; reason for recovery unspecified	N/A
UT-L-14070005-011_00	Wide Hollow Reservoir	LL= 374714/1113813 35S 2E 1,2,12 USGS MAP AND DATE: WIDE HOLLOW RESERVOIR, UTAH, QUAD-1964 WATERSHED: ESCALANTE RIVER, WMU Colorado River West	Freshwater Lake	145 Acres	Phosphorus (Total)	Applicable WQS attained; reason for recovery unspecified	N/A
UT-L-14080201-007_00	Recapture Reservoir	TOWNSHIP: 36S RANGE: 22E SECTION: 10 USGS MAP AND DATE: BLANDING-1962, WMU Colorado River West	FRESHWATER RESERVOIR	17 ACRES	Oxygen, Dissolved	Applicable WQS attained; reason for recovery unspecified	N/A
UT-L-15010008-008_00	Baker Dam Reservoir	LL= 372208 / 1133806 39S 16W 22 USGS MAP AND DATE: CENTRAL WEST, UTAH- 1972 WATERSHED: SANTA CLARA RIVER, WMU Lower Colorado River	FRESHWATER LAKE	63 ACRES	Temperature, water	TMDL approved or established by EPA (4A)	Paper copy shows approved for temp
UT-L-16010202-	Cutler Reservoir	LL= 414916/1115735 12,13N 1W USGS MAP AND DATE: CUTLER DAM	FRESHWATER LAKE	7184 ACRES	Oxygen, Dissolved	TMDL approved or	N/A

002_00		1964, NEWTON,UTAH 1964 WATERSHED: BEAR RIVER, WMU Bear River				established by EPA (4A)	
UT-L-16010202-002_00	Cutler Reservoir	LL= 414916/1115735 12,13N 1W USGS MAP AND DATE: CUTLER DAM 1964, NEWTON,UTAH 1964 WATERSHED: BEAR RIVER, WMU Bear River	FRESHWATER LAKE	7184 ACRES	Phosphorus (Total)	TMDL approved or established by EPA (4A)	N/A
UT-L-16030006-017_00	Yankee Meadow Reservoir	TOWNSHIP: 35S RANGE: 8W SECTION: 20 USGS MAP AND DATE: PAROWAN, UTAH-1971 WATERSHED: BOWERY CREEK,	FRESHWATER LAKE	53 ACRES	pH	Applicable WQS attained; reason for recovery unspecified	N/A
UT-L-16030006-019_00	Red Creek Reservoir (Iron County)	TOWNSHIP: 34S RANGE: 7W SECTION: 7,18 USGS MAP AND DATE: RED CREEK RESERVOIR, UTAH-1971 WATERSHED: RED CREEK	FRESHWATER RESERVOIR	62 ACRES	Oxygen, Dissolved	Applicable WQS attained; reason for recovery unspecified	N/A

ATTACHMENT 5

D. Watershed Protection

D.1 - Yes. There is a buffer zone dedicated for conservation purposes (to protect fish and wildlife habitat, water quality, aesthetics and/or low-impact recreation) extending 200 feet from the average annual high water line for at least 50 percent of the shoreline, including all of the undeveloped shoreline.

In accordance with Article 402 of the Federal Energy Regulatory Commission (FERC) project license, PacifiCorp developed the Resource Management Plan (RMP) for the Cutler project in consultation with US Fish and Wildlife Service (USFWS), the National Park Service, leaseholders, neighboring landholders, the Bear River Canal Company, and the Utah Divisions of Wildlife, Water Resources, and Parks and Recreation (subsequent work on the Cutler TMDL also provided substantive consultation with the Utah Division of Water Quality). The goals of the RMP, approved by FERC Order dated November 6, 1995, are to 1) improve water quality, 2) improve wildlife habitat, 3) improve scenic resources, 4) retain and improve traditional agricultural uses, and 5) improve recreational access to the project area.

The RMP outlines programs designed to buffer the 188.76-mile shoreline from erosion and adverse land use practices. To date, PacifiCorp has established protective designations that extend 200 feet or more from the reservoir high water mark in an average year for 86.5 percent of the total shoreline and 99.6 percent of the undeveloped shoreline (the only areas lacking protective shoreline designations are those reaches under non-PacifiCorp ownership).

A vegetation enhancement program that involves protecting and creating wildlife habitats and re-establishing a shoreline buffer of native grasses and forbs is a key part of the RMP. Approximately 1,225 acres of primarily native hydrophilic and upland plants have been established around the shoreline. PacifiCorp has also designated multiple sections of the reservoir shoreline for sensitive wildlife habitat and established twelve woody vegetation areas that extend from the shoreline in “pockets” ranging from 0.5-3 acres.

A modified agricultural lease program is another cornerstone of the RMP. PacifiCorp is intensively managing grazing pastures and five-strand barb wire fencing has been erected to keep animals from eroding the shoreline. Likewise, farmers raising crops on leased lands are prohibited from tilling immediately along the reservoir shoreline or in drainage swales and they must restrict their use of pesticides and herbicides. Lands under PacifiCorp ownership that have not been leased serve as additional conservation buffers. Fencing serves to reinforce the boundary of the vast majority of the lands subject to the agricultural lease and vegetation enhancement programs.

As noted above, the protections afforded by the vegetation enhancement and agricultural lease programs provide a 200^{+} foot buffer around 99.6 percent of the undeveloped shoreline. The

remaining portion of undeveloped shoreline consists of 0.8 mile of steep terrain along the canyon at the north end of the reservoir. PacifiCorp does not own sufficient land is this area to provide a buffer that extends 200 feet from the shoreline. However, the area owned by PacifiCorp is designated as a shoreline buffer and there are no known plans to develop the steep and inaccessible adjacent upland that is not owned by PacifiCorp.

To ensure the effectiveness of the programs buffering the shoreline, PacifiCorp monitors the vegetation enhancement areas and its tenants' compliance with lease terms annually, and provides Plan implementation reports to FERC and the resource agencies listed above every five years. To view the most current report (*Cutler RMP 5-year Monitoring Report 2008-2012*), access it from PacifiCorp's Cutler project website homepage (http://www.pacificorp.com/es/hydro/hl/cutler.html; select the "Five-Year Monitoring Reports link). The UDEQ indicates that the buffer provided by RMP practices aids in reduction of non-point source contributions to water quality impairment (Attachment 4b). PacifiCorp's implementation of the Cutler RMP has also garnered praise and awards from environmental groups for contributing to biodiversity conservation, non-point source pollution reductions, and ecological restoration. A complete listing of this formal recognition is provided in Attachment 4d.

ATTACHMENT 6

E. Threatened and Endangered Species Protection

E.1. - No. There is no known presence of species listed as threatened or endangered under state or federal Endangered Species Acts in the facility area or downstream reach. In the past, bald eagle *(Haliaeetus leucocephalus)* and peregrine falcon *(Falco peregrines)* were federally listed; however, they have since been delisted. Whooping crane *(Grus mericana)* and Ute ladies'-tresses *(Spiranthes diluvialis)* are federally listed and may occur in the Cutler Hydroelectric Project area. However, no use of the project area by whooping crane was documented in the 1993 Cutler Hydroelectric Project Environmental Assessment (EA), nor was Ute ladies'-tresses found during riparian field surveys (although it does occur nearby). The whooping crane has been extirpated from Utah; hence, it is not present at the Cutler Hydroelectric Project. As noted in the 1993 EA (see Attachment 3a), the US Fish and Wildlife Service (USFWS) concurred with the determination that the project as licensed would have no effect on Ute ladies'-tresses and all other federally listed threatened or endangered species (USFWS, 1993).

The state of Utah does not have a state Endangered Species Act. However, the state does maintain a Sensitive Species List that includes wildlife species that are candidates for federal listing or for which a conservation agreement is in place. The Utah Sensitive Species List also includes "wildlife species of concern," which are defined as "those species for which there is credible scientific evidence to substantiate a threat to continued population viability." The Long-billed Curlew *(Numenius americanus)* and the Short-eared Owl *(Asio flammeus)* are listed wildlife species of concern that are present in the project area. The Long-billed Curlew, in particular, has seen a marked and sustained increase in number at the Cutler project since PacifiCorp implemented the vegetation enhancement program (PacifiCorp, 2008). The California floater (*Anodonta californiensis*), a bivalve mollusk that is listed as a wildlife species of concern, is also present in the reservoir area.

ATTACHMENT 7

F. Cultural Resource Protection

F.1 - Yes. The Cutler project is in compliance with all requirements regarding cultural resources in the Federal Energy Regulatory Commission (FERC) license. The Cutler dam and powerhouse were listed on the National Register of Historic Places in 1989 and Article 403 of the project license requires PacifiCorp to develop a Cultural Resource Management Plan in consultation with the Utah State Historic Preservation Office (SHPO). PacifiCorp completed the Cultural Resource Management Plan for the project on April 28, 1995. In a letter dated April 5, 1995, the SHPO states that PacifiCorp did a good job in identifying character-defining features and the effects that specific work would have on the resources. FERC Order approving the Cutler Cultural Resource Management Plan was issued May 16, 1995.

Article 404 of the project license provides direction to PacifiCorp in the event that archeological or historic sites are discovered during project operation. However, no discoveries have been made that would trigger compliance actions on the part of PacifiCorp.

ATTACHMENT 8

G. Recreation

G.1 - Yes. The Cutler Hydroelectric Project is in compliance with the recreational provisions of the Federal Energy Regulatory Commission (FERC) project license. Article 402 of the license requires PacifiCorp to develop a Resource Management Plan (RMP) that specifies recreational enhancements to be made at the facility, as well as measures to ensure that the public uses only designated access areas. PacifiCorp submitted a RMP to FERC that was modified and approved by FERC Order dated November 6, 1995.

PacifiCorp has completed all of the recreational enhancements identified in the RMP. These include eight day-use sites (four developed, four primitive), two boat-in picnic sites, one pedestrian loop trail and bridge, and two canoe trails. The final day-use site, the Logan River Access Recreation Site, was completed in 2010 and opened in early 2011. The five-year monitoring report can be accessed from PacifiCorp's website (http://www.pacificorp.com/es/hydro/hl/cutler.html; select the "Five-Year Monitoring Reports" link).

In addition, PacifiCorp has developed interpretive signage and information for the project area, completed a visitor use survey, and instituted a recreation use policy regarding boating use and area restrictions on the reservoir to further protect sensitive wildlife areas (additional details below). Fencing around the shoreline buffer area and sensitive wildlife habitats, such as nesting sites, is helping to ensure appropriate use of the area by recreationists. In 2007, a final component of the RMP's recreation program—a new Cutler motorized boater access plan and regulations—was completed in conjunction with Utah State Parks and Utah Department of Water Resources. The new regulations were adopted by the State Boating Council and State Parks Board and became state law in early 2008. A map of recreation facilities, boater zones, and day-use rules are available on PacifiCorp's website (http://www.pacificorp.com/es/hydro/hl/cutler.html; select the "Recreation" link).

In accordance with the terms of the initial FERC approval Order, and a modification issued by FERC on September 7, 2006, PacifiCorp submitted RMP Five Year Monitoring Reports detailing implementation of these recreational measures in 2002, 2008, and 2013. Future reports will be submitted in 2018 and 2023, prior to the end of this license period.