

## **ATTACHMENT 1**

### **BEAR RIVER PROJECT**

#### **Agency, Tribe, and Non-Governmental Organization Authorized Representatives**

Organization	Authorized Representatives	Contact Information
<b>BEAR (SODA, GRACE, &amp; ONEIDA)</b>		
U.S. Fish and Wildlife Service	Damien Miller, Supervisor EIFO	4425 Burley Drive, Suite A Chubbuck, ID 83201 Phone: 208-237-6975 Ext. 31 Email: <a href="mailto:Damien_miller@fws.gov">Damien_miller@fws.gov</a>
U.S. Bureau of Land Management	Arn Berglund, Resource Coordinator /Fisheries Biologist	Idaho Falls District/Upper Snake Field Office 1405 Hollipark Drive Idaho Falls, ID 83401-2100 Phone: 208-524-7509 Email: <a href="mailto:Arn_Berglund@blm.gov">Arn_Berglund@blm.gov</a>
U.S. National Park Service	Susan Rosebrough, Planner	909 First Ave Seattle, WA 98104-1055 Phone: 206-220-4121 Email: <a href="mailto:susan_rosebrough@nps.gov">susan_rosebrough@nps.gov</a>
U.S. Forest Service	Jim Capurso, Forest Fish Biologist	1405 Hollipark Drive Idaho Falls, ID 83401 Phone: 208-557-5780 Email: <a href="mailto:jcapurso@fs.fed.us">jcapurso@fs.fed.us</a>
Shoshone-Bannock Tribes	Hunter Osborne, Fisheries Department	29 Shoshone Drive P.O. Box 306 Fort Hall, ID 83203 Phone: 208-478-3743 Email: <a href="mailto:hosborne@shoshonebannocktribes.com">hosborne@shoshonebannocktribes.com</a>
Idaho Department of Environmental Quality	Lynn Van Every, Water Quality Regional Manager	444 Hospital Way #300 Pocatello, ID 83201 Phone: 208-236-6160 Email: <a href="mailto:Lynn.Vanevery@deq.idaho.gov">Lynn.Vanevery@deq.idaho.gov</a>
Idaho Department of Fish and Game	Jim Mende, Environmental Staff Biologist	1345 Barton Road Pocatello, ID 83204 Phone: 208-232-4703 Email: <a href="mailto:jmende@idfg.idaho.gov">jmende@idfg.idaho.gov</a>
Idaho Department of Parks and Recreation	Mary Lucachick, Water Recreation Analyst	P.O. Box 83720 Boise, ID 83720- 0065 Phone: 208-334-4180 Ext. 2482 Email: <a href="mailto:mlucachi@idpr.state.id.us">mlucachi@idpr.state.id.us</a>
Idaho Council of Trout Unlimited	Warren Colyer, Project Manager	249 South 100 West Providence, ID 84332 Phone: 435-753-3132 Email: <a href="mailto:wcolyer@tu.org">wcolyer@tu.org</a>
Idaho Rivers United	Kevin Lewis, Conservation Director	P.O. Box 633 Boise, ID 83701 Phone: 208-343-7481

PacifiCorp Application for Low Impact Hydropower Certification  
Bear River Project

		Email: <a href="mailto:kevin@idahorivers.org">kevin@idahorivers.org</a>
American Whitewater	Charlie Vincent, Regional Coordinator	1800 E 3900 South Salt Lake City, UT 84124 Phone: 801-424-4244 Email: <a href="mailto:charliev@xmission.com">charliev@xmission.com</a>
Greater Yellowstone Coalition	Marv Hoyt, Idaho Director	162 North Woodruff Idaho Falls, ID 83401 Phone: 208-522-7927 Email: <a href="mailto:mhoyt@greateryellowstone.org">mhoyt@greateryellowstone.org</a>

## **ATTACHMENT 2**

### **BEAR RIVER PROJECT**

#### **Overview of the Bear River Basin and Associated Facilities**

## TABLE OF CONTENTS

2.0 OVERVIEW OF THE BEAR RIVER BASIN.....	3
<b>2.1 Project Description .....</b>	<b>3</b>
2.1.1 Soda development .....	5
2.1.2 Grace development.....	5
2.1.3 Oneida development.....	5
2.2 Project Photographs .....	6
2.3 Project Operations .....	8

## **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 the 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 located in valleys along the main stem of the river and its tributaries. The Bear River watershed also includes vast amounts of federal (both Bureau of Land Management and Forest Service) 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 discharges from which are primarily for irrigation and flood control.

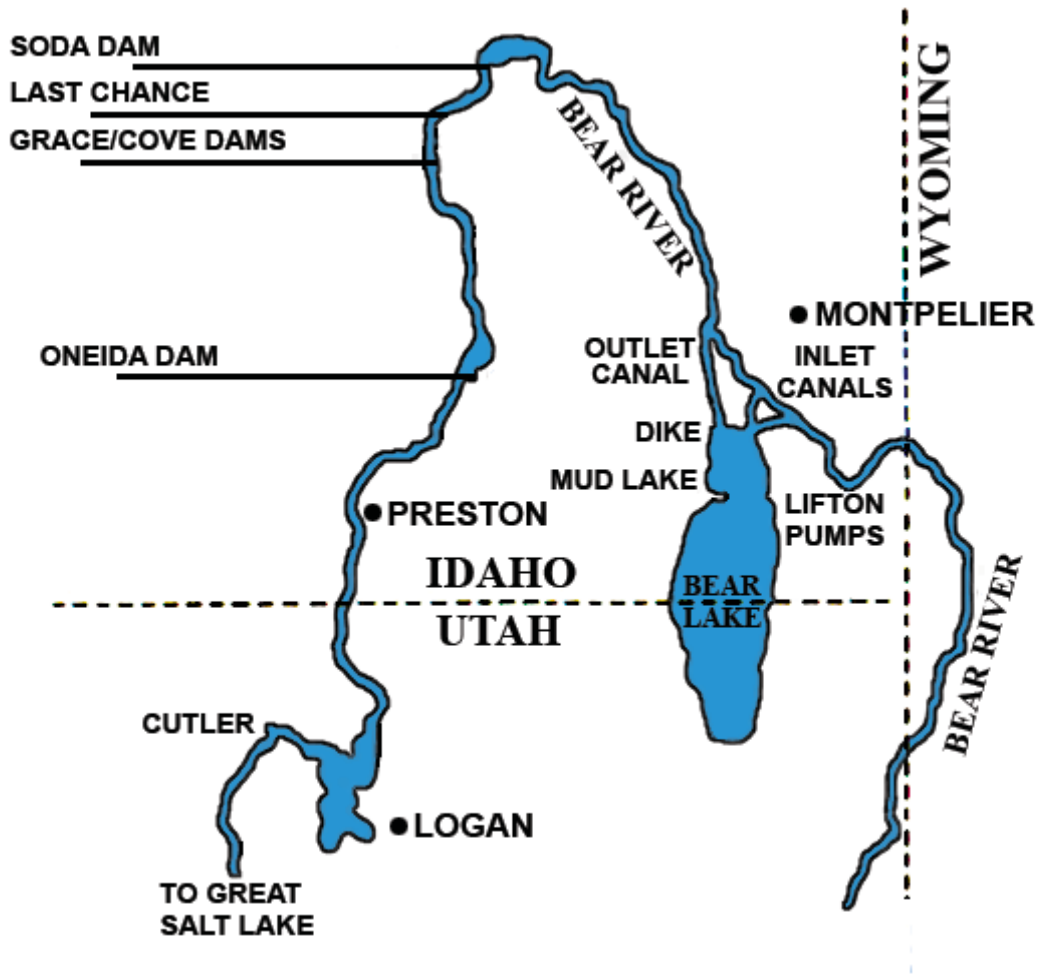
## **2.1 PROJECT DESCRIPTION**

PacifiCorp operates five hydroelectric developments in the Bear River Basin. Three of the developments—Soda, Grace, and Oneida—are operated under the FERC license for the Bear River Hydroelectric Project No. 20 and are the focus of this application. Two other projects operated by PacifiCorp include the Cutler and Last Chance hydroelectric projects. The Cutler hydroelectric project is operated under FERC license No. 2420. FERC granted the Last Chance development an exemption from licensing in 1981 due to the project's small size. A sixth facility on the Bear River, the Cove development, was decommissioned in 2006.

The Soda development is located the farthest upstream on the Bear River, five miles west of the city of Soda Springs in Caribou County, Idaho. The Last Chance development is located on the Last Chance Canal, a diversion from the Bear River that is located four miles downstream of the Soda powerhouse. The Grace development is the next facility downstream and it is also located in Caribou County, Idaho. The Oneida Project is located in Franklin County, Idaho, approximately 6 miles south of Cleveland, Idaho. The Cutler development is located 44 miles downstream of the Oneida project in Utah, near the confluence of several major tributaries. Figure 2.1-1 provides a map of the project locations and Table 2.1.-1 summarizes information about the facilities that are the subject of this application.

**Table 2.1-1. Generation and reservoir information for the subject projects on the Bear River.**

Development	Avg. Annual Generation (Mwh)	Reservoir Total Storage (ac-ft)	Reservoir Active Storage (ac-ft)	Normal Full Pool Elv. (feet msl)	Generator Nameplate kW	Turbine
Soda	28,660	16,300	16,300	5,720	14,000	2- Vertical Francis
Grace	135,063	320	250	5,555	33,000	3- Vertical Francis
Oneida	60,600	10,800	10,880	4,882.9	30,000	3- Vertical Francis
<b>Total</b>	<b>317,610</b>	<b>40,620</b>	<b>40,630</b>			



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

### 2.1.1 Soda development

The Soda development consists of a 103-foot-high by 433-foot-long concrete gravity dam with a 109-foot-long integral powerhouse section containing five headgates that supply water to the generating unit penstocks and to a 900-cubic feet per second (cfs)-capacity low-level discharge (Johnson valve). The concrete dam also has a 210-foot-long non-overflow gravity section and a 114-foot-long gated overflow spillway section containing three, 30-foot by 14-foot Taintor gates. A 55-foot-long by 19-foot-high earth fill dam also forms parts of the development. The Soda reservoir (commonly referred to as the Alexander reservoir) has a surface area of 1,100 acres, an active storage capacity of 16,300 acre-feet, and a normal maximum full pool elevation of 5,720 feet. It extends approximately 4.5 miles upstream to just below the Big Spring Creek confluence with the Bear River. The development's 41-foot by 109-foot powerhouse contains two vertical Francis units, each with an installed capacity of 7 MW and maximum hydraulic capacities of 1,287 and 1,337 cfs, respectively. The development includes a tailrace immediately downstream of the powerhouse with a normal tailwater elevation of 5,641 feet.

### 2.1.2 Grace development

The original Grace Dam and the existing power facilities and other appurtenant structures were constructed shortly after 1910. A new dam was constructed in 1951 and the original rock-filled, timber-crib dam is now submerged in the forebay just upstream of the 1951 dam. Grace Dam is a rock-filled, timber-crib structure with a concrete core at the base of the structure. The structure stands approximately 51 feet high including the flashboards. The crest length is 180 feet 5.5 inches. The dam creates a 320 acre-foot forebay with 250 acre-feet of usable storage. A 52-foot-wide intake structure containing eighteen 5-foot by 10-foot screen sections is housed within a concrete stucco building, adjacent to the earth embankment section of the dam. A 26,000-foot-long 11-foot-diameter flowline consisting of 15,000 feet of steel and 11,000 feet of wood stave pipeline conveys water from the intake structure to the surge tanks. There are two surge tanks, one 10 feet in diameter and 38 feet high, located approximately 2.6 miles downstream of the diversion, and the other 30 feet in diameter and 132 feet high, located directly above the powerhouse. Three 90-inch-diameter steel penstocks, equipped with two butterfly valves carry water from the surge tanks to the powerhouse. The powerhouse has three turbine generators rated at 11 MW each for a total plant capacity of 33 MW. Their total hydraulic capacity is 960 cfs. The Grace tailrace includes a short concrete-lined section that transitions to an unlined open channel section approximately 350 feet from its confluence with the Bear River.

### 2.1.3 Oneida development

The Oneida development includes a 111-foot-high by 381-foot-long concrete gravity dam that includes a 118-foot-long uncontrolled auxiliary spillway, a 66-foot-long non-overflow gravity section, a 99-foot-long gated spillway containing five Taintor gates, and an 86-foot-long gravity section with ice sluices. There is also a 40-foot-high, 1,100-foot-long embankment dam. The Oneida reservoir has an active storage capacity of 10,880 acre-feet and a surface area of 480 acres at an elevation of 4,882.90 feet. A 50-foot-wide by 50-foot-high intake structure, containing six openings fitted with trashracks, transitions to two, 16-foot-diameter circular



outlets. A 16-foot-diameter, 2,240-foot-long steel flowline conveys water from the intake structure to a 40-foot-diameter, 142-foot-high surge tank. Three 12-foot-diameter, 120-foot-long steel penstocks extend from the surge tank to the powerhouse. The Grace powerhouse is 52-feet by 162-feet and contains three vertical Francis units, each with an installed capacity of 10 MW and hydraulic capacities of 1,161, 1,161, and 968 cfs, respectively. The development has a 64-foot-wide by 118-foot-long rectangular channel tailrace.

## 2.2 Project Photographs



Figure 2.1-1 Soda Dam



Figure 2.2.-2 Grace Dam



Figure 2.2-3 Oneida Dam

## 2.3 Project Operations

PacifiCorp operates the hydroelectric developments on the Bear River in a coordinated manner to meet irrigation demands and generate power. River flows are generally higher than the natural conditions during the irrigation season (April through October) due to irrigation releases from Bear Lake. The Soda, Grace, and Oneida developments are usually operated in a modified run-of-river mode during this season; water stored in Soda and Oneida reservoirs may be used to satisfy short-term irrigation demand or to maintain reservoir levels in Cutler reservoir. The Cutler reservoir level must be maintained for environmental protection purposes even when the Cutler facility normally ceases to generate power during the summer low-flow period. Substations containing step-up transformers and circuit breakers are located adjacent to the powerhouses at Soda, Oneida, and Grace. The substations serve as the point of interconnection to the transmission grid system.

**ATTACHMENT 3**

**BEAR RIVER PROJECT**

**Idaho DEQ Compliance Letter- Grace and Soda**



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

444 Hospital Way, #300 • Pocatello, Idaho 83201 • (208) 236-6160

C.L. "Butch" Otter, Governor  
Toni Hardesty, Director

January 20, 2009

Mr. Mark Stenberg  
PacifiCorp Energy  
License Program Manager – Idaho  
822 Grace Power Plant Road  
Grace ID 83241

RE: Compliance with DEQ's 401 certification condition 1 (a. and b.), Grace/Cove water quality monitoring.

Dear Mr. Stenberg:

In compliance with DEQ's 401 certification for PacifiCorp's Bear River Hydroelectric Projects, PacifiCorp Energy has monitored water quality through Grace/Cove from 2004-2007. DEQ Pocatello Regional office staff have reviewed these data and concluded that PacifiCorp's operation has not contributed to violations of State of Idaho water quality standards. DEQ's 401 certification of June 2003 required PacifiCorps to implement water quality monitoring in this project reach for six (6) years.

Based on the four (4) years of data (2004-07) and our agreed upon need to reallocate those monitoring resources to documenting water quality associated with the whitewater boater flow program in 2008 (and following years) DEQ is relieving PacifiCorp of the last 2 years (2008-2009) of water quality monitoring as required under condition 1 (a. and b.) in the 401 certification.

Should new or additional information suggest that PacifiCorp's ongoing operation of the Grace Project is causing water quality violations, DEQ reserves the right, in consultation with PacifiCorp, to reopen the 401 certification.

Please call me at 236-6160 if you have questions or want to discuss.

Sincerely,

Lynn Van Every  
Regional Water Quality Manager

Cc: file

**ATTACHMENT 4**

**BEAR RIVER PROJECT**

**Idaho DEQ Compliance Letter- Oneida**



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

444 Hospital Way #300 • Pocatello, Idaho • 83201

24 July 2009

C.L. "Butch" Otter, Governor  
Toni Hardesty, Director

Mark Stenberg  
PacifiCorp Energy, Grace Hydro Plant  
822 Grace Power Plant Road  
Grace ID 83241

RE: Oneida Hydroelectric Project, FERC No. P-20, Clean Water Act Section 401 Certification.

Dear Mr. Stenberg:

The Idaho Department of Environmental Quality (DEQ) has reviewed "Water Quality Summary 2004-2005 for the Oneida Hydroelectric Project," 31 May 2006, and "Supplemental Report to the May 2006 Water Quality Summary 2004-2005," 26 February, 2009, (hereafter "Reports") submitted on behalf of PacifiCorp by Ecosystems Research Institute of Logan, Utah. The reports are intended to fulfill Section 5 and 6 requirements of the 401 water quality certification issued by DEQ on 23 June 2003. The reports describe the relationship among flow changes and turbidity, and other water quality parameters in Bear River downstream of the Oneida Hydroelectric Project (project). Additionally, at DEQ's request, PacifiCorp provided raw data and filtered data used to compile the reports. DEQ conducted an internal analysis of this data set which included turbidity, flow, stage, and precipitation records from 2004-2005. Finally, you, Conley Baldwin and the consultant team have taken time to meet with Greg Mladenka and me on numerous occasions to discuss operational considerations and license constraints at the project, possible additional data analysis and the reports' conclusions, with a goal of understanding and evaluating the project's contributions to exceedances of State of Idaho Water Quality Standards.

After extensive evaluation of the reports, the 2004-05 data, and much discussion, internally and with PacifiCorp, it is DEQ's opinion that project operations that occurred in compliance with FERC license conditions (Articles 408, 412 and 420) during the study period of 2004-05, the Oneida Hydroelectric Project did not contribute to violations of State of Idaho Water Quality Standards.

In the event that PacifiCorp anticipates operating the project in a manner substantially different than during the 2004-2005 study period PacifiCorp shall consult with IDEQ in advance. Examples of such changes include significant changes to the frequency or magnitude of daily stage changes than those presented in the reports (2004-2005 data). If significant operational changes are planned or occur, DEQ may require further study of water quality effects to determine if operations are causing exceedances of Water Quality Standards.

Section 4 of the 401 water quality certification requires reporting of the preceding water year on an annual basis to DEQ. In addition to the items list in Section 4, the annual report shall include summary statistics for the frequency and magnitude of daily stage changes and downramp.

We appreciate your cooperation in complying with conditions in the Water Quality Certification. If you have any questions or need clarification, please contact me at 208-236-6160.

Sincerely,

Lynn Van Every  
Regional Water Quality Manager

Cc: Bruce Olenick, DEQ Regional Administrator