

RECLAMATION

Managing Water in the West

Bureau of Reclamation Renewable Energy Update

Fiscal Year 2014, Q2



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Executive Summary

The Bureau of Reclamation Renewable Energy Update identifies Federal and non-Federal renewable energy projects currently online or in development on Reclamation land, facilities, and water bodies and highlights current Reclamation renewable activities. The update provides Reclamation-wide and regional summaries, renewable energy portfolios, and project updates as well as a listing of WaterSMART Grant projects that have a renewable energy component.

The quarterly update is a compilation of monthly updates submitted by regional offices, with input received from area offices. Reclamation personnel, including Steve Melavic, Rick Clayton, Robert Ross, Jeffrey Ticknor, and James Stauffer, were instrumental in developing this document.

Renewable Activities

Hydropower Memorandum of Understanding (MOU) Phase II Action Plan

On March 24, 2010, the Department of the Army through the U.S. Army Corps of Engineers, the Department of Energy, and the Department of the Interior signed the MOU for Hydropower. The purpose of the MOU is to “help meet the nation’s needs for reliable, affordable, and environmentally sustainable hydropower by building a long-term working relationship, prioritizing similar goals, and aligning ongoing and future renewable energy development efforts.” To this end, the MOU identifies mission aims, goals, and action items. Through the MOU, the agencies have partnered to improve and expand sustainable hydropower generation in the United States.

In 2012, the MOU Two-Year Progress Report was published. The Progress Report highlights accomplishments (including the completion of numerous hydropower resource assessments, the development of facility optimization tools, and climate change reports), details on-going action items, and identifies areas for future work. Both the signed MOU and Progress Report are available on the Reclamation Power Program Web site, <http://www.usbr.gov/power/>.

Currently, MOU partners are drafting a Phase II Action Plan that identifies MOU priorities and action items moving forward. Looking ahead, Reclamation will continue to collaborate with MOU agencies to advance sustainable hydropower generation. Phase II priorities include:

Reclamation Renewable Energy Update

- Hydro systems analysis
- Technology development and performance testing
- Addressing environmental issues
- Information sharing

The Action Plan is expected to be published in Fiscal Year (FY) 2014.

Lease of Power Privilege (LOPP) Directive and Standard (D&S)

On August 9, 2013, H.R. 678, Bureau of Reclamation Small Conduit Hydropower Development and Rural Jobs Act (the Act) became Pub. L. 113-24. The Act amends Section 9(c) of the Reclamation Project Act of 1939 to authorize all Reclamation conduit facilities for Federal hydropower development and non-Federal hydropower development through a LOPP.

The Act also establishes LOPP process requirements in addition to those required in the existing LOPP D&S FAC 04-08, namely that LOPP be offered *first* to the irrigation district(s) or water users association(s) operating or receiving water from the Reclamation transferred or reserved conduit.

Working with the Federal Energy Regulatory Commission (FERC), Reclamation revised FAC 04-08 to incorporate Pub. L. 113-24 process requirements. The revised D&S was posted as a Temporary Reclamation Manual Release (TRMR) in February 2014, with a concurrent internal and external review. The review period closed March 28, 2014, and a disposition of comments is currently being prepared. Thank you to those who provided comments.

The LOPP TRMR is available on the Temporary Reclamation Manual Release Web site, <http://www.usbr.gov/recman/temporaryreleases.html>.

Reclamation Renewable Energy Summary

Online Renewable Energy Projects

Hydropower				
Reclamation Owned and Operated	53	Plants	14,723	MW
Reclamation Owned and Operated by Others ⁴	23	Plants	790	MW
Other Plants on Reclamation Facilities	7	Plants	85	MW
FERC Plants on Reclamation Facilities	50	Plants	460	MW
LOPP Plants ⁵	9	Plants	35	MW
Total	142	Plants	16,093	MW

Other Renewables				
Solar				
Alamosa (UC, New Mexico)			10	kW
Grand Coulee Warehouse (PN, Washington)			5	kW
Boulder City Regional Office Building (LC, Nevada)			276	kW
Boulder City Regional Office Building (Parking) (LC, Nevada)			6	kW
Hoover Spillway House Renovation (LC, Nevada)			48	kW
Total			345	kW

In-Progress Renewable Energy Projects

Reclamation Hydropower				
Generator Rewinds/Uprates ⁶	1	Plant		
Turbine Refurbishments/Replacements ⁷	5	Plants		
Optimization ⁸	0	Plants		
Total	6	Plants		

FERC Licenses on Reclamation Facilities				
FERC Licenses	3	Plants	27	MW
FERC Exemptions	6	Plants	8	MW
FERC Preliminary Permits (Conventional)	15	Plants	42	MW
FERC Preliminary Permits (Pumped-storage)	11	Plants	8,827	MW
Total	35	Plants	8,904	MW

⁴ Power from 5 of the 23 plants is marketed by the Western Area Power Administration (Western): Deer Creek, Towaoc, McPhee, O'Neill, and San Luis.

⁵ Reclamation holds title to the Grand Valley Powerplant Lease of Power Privilege (LOPP). South Canal Drop 1 and Drop 3 are recorded as two separate plants.

⁶ A major generator overhaul is in progress at San Luis (G1).

⁷ Turbine refurbishments/replacements projects are in progress at Palisades (G4), Deer Creek (G2), Glen Canyon (G3), Estes (G2), and Hoover (A1 and A8).

⁸ In August 2013, HydroS was brought online at Reclamation's BCCC in Idaho, which oversees operations at Black Canyon, Palisades, Minidoka, and Anderson Ranch plants.

Lease of Power Privilege			
LOPP Contracts	0	Plants	0 MW
LOPP Preliminary Leases	5	Plants	26 MW
LOPP Posted Public Solicitations	1	Plant	0.1 MW
LOPP Requests for Development	8	Plants	23 MW
Total	14	Plants	49.1 MW

Other Renewables		
Wind		
Mohave Wind Farm (LC, Arizona)		500 MW
Total		500 MW
Solar		
San Luis Facility (MP, California) ⁹		9-25 MW
Total		9-25 MW

Pilot Projects

Hydrokinetic Installation on Roza Canal (Instream Energy)	10	kW
Low-head Technology Installation on Monroe Drop ¹¹	300	kW
Low-head Technology Installation on North Unit Irrigation Canal, Mile 45 ¹²	5,000	kW
Hydrodynamic Screw Technology Installation on South Canal, Drop 2 ¹³	850	kW
Total	6,160	kW

WaterSMART

Through WaterSMART Grants (formerly Challenge Grants), Reclamation provides 50/50 cost share funding to irrigation and water districts, tribes, states, and other entities with water or power delivery authority. Projects should seek to conserve and use water more efficiently, increase the use of renewable energy, protect endangered species, or facilitate water markets. Projects are selected through a competitive process and the focus is on projects that can be completed within 24 to 36 months that will help sustainable water supplies in the Western United States. The FY 2014 Funding Opportunity Announcement (FOA) was posted on November 14, 2013, with applications due on January 23, 2014. Reclamation received 138 applications in response to the FOA. Selections will be announced in June 2014 and grants awarded in September 2014. For additional

⁹ Capacity is dependent upon the amount of land available to be leased.

¹¹ The Low-head Technology Installation on Monroe Drop has received a Federal Energy Regulatory Commission (FERC) Preliminary Permit and is included in the FERC Preliminary Permits (Conventional) statistic.

¹² The Low-head Technology Installation on North Unit Irrigation Canal, Mile 45, has received a FERC Exemption and is included in the FERC Exemptions statistic.

¹³ Amendments to the existing South Canal LOPP contract may allow the Hydrodynamic Screw Technology Installation on South Canal, Drop 2, pilot project to proceed under the existing LOPP contract. This pilot project is included in the LOPP Requests for Development statistic.

information, visit www.usbr.gov/WaterSMART. FY 2011-2013 WaterSMART Grant projects that have a renewable energy component are listed below.

FY 2011

Recipient: Three Sisters Irrigation District

Capacity: 950 kW

The project is projected to generate 3.1 million kWh annually between April and October. Included is an additional 54” HDPE pipe that will eventually deliver up to 80 cubic feet per second of pressurized water to the 4,000 acres between Watson and McKenzie Reservoirs. Project construction is ongoing.

Recipient: Pershing County Water Conservancy District

Capacity: 750 kW

The Pershing County Water District will automate its gates, install solar-powered ultrasonic meters, and install 750 kW capacity hydropower turbines to generate renewable energy at the Rye Patch Dam. The hydropower turbines installed as part of this project are expected to generate 2,900 megawatt-hours (MWh) of electricity annually. Project has been granted an extension through March 2015.

Recipient: Boise Project Board of Control

Capacity: 839 kW

The Boise Project Board of Control will develop an 839-kW capacity powerplant at the “Fargo Drop,” which will generate hydroelectric power that will be sold to the Idaho Power Company. The project will also include installation of a Supervisory Control and Data Acquisition system to improve regulation flows below the Fargo Drop diversion, in the Deer Flat Low Line Canal. The project is expected to result in 3,218 acre-feet of water savings annually that will be transferred to irrigation users to improve reliability in water short years. The Fargo Drop project came online in 2013.

FY 2012

Recipient: Consolidated Irrigation Company

Capacity: 500 kW

The Consolidated Irrigation Company will convert six miles of unlined earthen canal with three and half miles of high-pressure pipe to address seepage and evaporation losses. In addition, advanced measuring devices are to be installed at each service connection. Annually, the completed project is expected to conserve 9,484 acre-feet of water. The project includes the installation of a 500-kW hydropower facility, utilizing pipeline drops feeding into the Glendale Reservoir outside Preston, Idaho.

Recipient: Sacramento Suburban Water District

Capacity: 200 kW

The Sacramento Suburban Water District will install a hydroelectric turbine in an existing transmission pipeline. The 200-kW installation will allow the District to generate electricity as deliveries are received from the Folsom Reservoir. The project also includes the installation of a new booster pump, which will allow the District to reverse the flow of water when necessary, providing banked groundwater to other agencies connected to the pipeline. Together, the improvements are expected to increase water management flexibility so that groundwater can be used more effectively during dry periods. Project is no longer moving forward with renewable energy component, and will be removed from future Renewable Updates.

FY 2013

Recipient: Fremont Irrigation Company

Capacity: 2500 kW

The Fremont Irrigation Company in southern Utah will convert 5.8 miles of open ditch and earthen canals to enclosed pipe, an improvement that is expected to result in water savings of 5,352 acre-feet each year by avoiding seepage and evaporation losses. Water conserved as a result of the project will be used to meet the needs of water users during periods of shortage. The project also includes installation of a 2.5-MW capacity hydroplant, taking advantage of the piping improvements to generate renewable energy at the Highline Ditch diversion. Project is no longer moving forward with renewable energy component, and will be removed from future Renewable Updates.

Recipient: Cub River Irrigation Company

Capacity: 456 kW

The Cub River Irrigation Company in northern Utah will convert 6.5 miles of open ditch canal to pipe to address seepage and evaporation losses; improvements expected to result in 2,800 acre-feet of water savings each year. Water conserved as a result of the project will be left in the Bear River and is expected to benefit the Bear River Migratory Bird Refuge downstream. The project also includes installation of a 456-kW capacity hydroplant to generate renewable energy once the pipeline is in place.

Great Plains Renewable Energy Summary

Online Renewable Energy Projects

Hydropower				
Reclamation Owned and Operated	21	Plants	1,008	MW
Reclamation Owned and Operated by Others	0	Plants	0	MW
Other Plants on Reclamation Facilities	0	Plants	0	MW
FERC Plants on Reclamation Facilities	7	Plants	29	MW
LOPP Plants	1	Plant	3	MW
Total	29	Plants	1,040	MW

Other Renewables				
Solar				
Total			0	kW

In-Progress Renewable Energy Projects

Reclamation Hydropower				
Generator Rewinds/Uprates	0	Plants		
Turbine Refurbishments/Replacements ¹⁴	1	Plant		
Optimization	0	Plants		
Total	1	Plants		

FERC Licenses on Reclamation Facilities				
FERC Licenses	2	Plants	20	MW
FERC Exemptions	1	Plant	1	MW
FERC Preliminary Permits (Conventional)	3	Plants	4	MW
FERC Preliminary Permits (Pumped-storage)	3	Plants	2,132	MW
Total	9	Plants	2,157	MW

Lease of Power Privilege				
LOPP Contracts	0	Plants	0	MW
LOPP Preliminary Leases	2	Plants	7	MW
LOPP Posted Public Solicitations	0	Plants	0	MW
LOPP Requests for Development	2	Plants	14	MW
Total	4	Plants	21	MW

Other Renewables				
Wind				
Total			0	MW
Solar				
Total			0	MW

¹⁴ A turbine refurbishment project is in progress at Estes (G2).

Pilot Projects

Total

0 kW

Great Plains Project Updates

Federal Energy Regulatory Commission Projects

Project: Clark Canyon Dam

Developer: Clark Canyon Hydro, LLC

Status: License (P-12429)

The Developer submitted a revised drawings draft on August 22, 2013, for Reclamation review and full package on September 16, 2013. Reclamation provided formal comments on the package on October 28, 2013. A revised design package was received on December 2, 2013; however, there are still several outstanding deliverables Reclamation will need prior to completing review. Outstanding deliverables include electrical drawings, HVAC drawings, control drawings, and designer of record approval.

The revised design package was reviewed on February 28, 2014, and a number of editorial and design comments were made. Reclamation will work with the Developer to engage FERC following resolution of Reclamation's comments. FERC will not begin their review of the revised package until Reclamation has completed their review and indicated they are willing to accept. A revised package is scheduled to be submitted to Reclamation by mid-April.

The Construction Operation and Maintenance Contract is complete and awaiting resolution of design packages prior to transmittal. The Developer has hired RSCI out of Idaho as their prime contractor. Submittals unaffected by the Value Engineering proposals are in the process of being submitted and reviewed.

Acceptance of the project and issuance of Notice to Proceed will require a completed and accepted design package and completion of the Construction Operation and Maintenance Contract. Mobilization could follow quickly thereafter as the site use submittals have been reviewed and approved and a Quality Assurance inspector has been hired.

Project: Fresno Dam

Developer: Hydrodynamics, Inc.

Status: Expired Preliminary Permit (P-13474)

FERC issued a Preliminary Permit to Hydrodynamics, Inc. on December 7, 2009. Preliminary Permit has expired.

Project: Gibson Dam

Developer: Gibson Dam Hydroelectric Company, LLC

Status: License (P-12478)

FERC issued a license for Gibson Dam on January 12, 2012. Project activities are currently on hold as the Developer resolves power purchase agreement and transmission right-of-way issues. On October 18, 2013, FERC granted the licensee an extension of the deadlines to commence and complete construction to January 12, 2016, and January 12, 2019, respectively.

Project: Mill Coulee

Developer: Hydrodynamics, Inc.

Status: Expired Preliminary Permit (P-13700)

FERC issued a Preliminary Permit to Hydrodynamics, Inc. on November 30, 2010. Preliminary Permit has expired.

Project: Sun River Diversion Dam

Developer: Hydrodynamics, Inc.

Status: Expired Preliminary Permit (P-13161)

FERC issued a Preliminary Permit to Hydrodynamics, Inc. on October 28, 2008. Preliminary Permit has expired.

Lease of Power Privilege Projects

Project: Helena Valley Pumping Plant

Developer: Helena Valley Irrigation District

Status: Request for Development

On December 2, 2013, a kick-off meeting was held with the District and Developer. On December 12, 2013, Reclamation received a request for clarification on the availability of intra-project power and excess water within the Canyon Ferry Reservoir. On February 3, 2014, Reclamation responded that it could not support intra-project power for use by the project as proposed.

Additionally, Reclamation communicated that water is likely available within Canyon Ferry reservoir which could be contracted at the current Municipal and Industrial rate, but this action would require a new allocation study and NEPA/NHPA clearances.

On February 27, 2014, the Montana Area Office met with the District and Developer again to review a revised development plan. The District intends to

submit additional proposals (entailing the modification of existing hydraulic driven turbine pumping units to generate electricity) for Reclamation review prior to proceeding.

Project: Yellowtail Afterbay
Developer: Crow Tribe
Status: Request for Development

Reclamation has drafted a proposed Allocation of Responsibility Agreement. Agreement will establish a business relationship and define roles and responsibilities of Reclamation and the Tribe. The proposed agreement will be sent to the Tribe in the near future.

The Tribe has requested permission to access the afterbay area for surveying and geotechnical investigations prior to the completion of the agreement. Reclamation has issued a Notice to Proceed for the surveying activity.

Lower Colorado Renewable Energy Summary

Online Renewable Energy Projects

Hydropower

Reclamation Owned and Operated	3	Plants	2,454	MW
Reclamation Owned and Operated by Others	10	Plants	297	MW
Other Plants on Reclamation Facilities	7	Plants	85	MW
FERC Plants on Reclamation Facilities	0	Plants	0	MW
LOPP Plants	0	Plants	0	MW
Total	20	Plants	2,836	MW

Other Renewables

Solar

Boulder City Regional Office Building (LC, Nevada)	276	kW
Boulder City Regional Office Building (Parking) (LC, Nevada)	6	kW
Hoover Spillway House Renovation (LC, Nevada)	48	kW
Total	330	kW

In-Progress Renewable Energy Projects

Reclamation Hydropower

Generator Rewinds/Uprates	0	Plants
Turbine Refurbishments/Replacements ¹⁵	1	Plant
Optimization	0	Plants
Total	1	Plant

¹⁵ Turbine replacement projects are in progress at Hoover (A1 and A8).

FERC Licenses on Reclamation Facilities

FERC Licenses	0	Plants	0	MW
FERC Exemptions	0	Plants	0	MW
FERC Preliminary Permits (Conventional)	0	Plants	0	MW
FERC Preliminary Permits (Pumped-storage)	4	Plants	3,645	MW
Total	4	Plants	3,645	MW

Lease of Power Privilege

LOPP Contracts	0	Plants	0	MW
LOPP Preliminary Leases	0	Plants	0	MW
LOPP Posted Public Solicitations	0	Plants	0	MW
LOPP Requests for Development	2	Plants	3	MW
Total	2	Plants	3	MW

Other Renewables

Wind

Mohave Wind Farm (LC, Arizona)			500	MW
Total			500	MW

Solar

Total			0	MW
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Pilot Projects

Total			0	kW
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Lower Colorado Project Updates

Wind

Project: Searchlight Wind Energy
Developer: Searchlight Wind Energy LLC
Status: In Development

Project will be developed on approximately 9,300 acres of land managed by the Bureau of Land Management (BLM) in Clark County, Nevada. As this is a BLM project, it will be removed from future updates.

Mid-Pacific Renewable Energy Summary

Online Renewable Energy Projects

Hydropower

Reclamation Owned and Operated	10	Plants	1,910	MW
Reclamation Owned and Operated by Others ¹⁶	3	Plants	452	MW
Other Plants on Reclamation Facilities	0	Plants	0	MW
FERC Plants on Reclamation Facilities	13	Plants	60	MW
LOPP Plants	1	Plant	1	MW
Total	27	Plants	2,423	MW

Other Renewables

Solar

Total	0	kW
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In-Progress Renewable Energy Projects

Reclamation Hydropower

Generator Rewinds/Uprates ¹⁷	1	Plant		
Turbine Refurbishments/Replacements	0	Plants		
Optimization	0	Plants		
Total	1	Plant		

FERC Licenses on Reclamation Facilities

FERC Licenses	1	Plant	7	MW
FERC Exemptions	0	Plants	0	MW
FERC Preliminary Permits (Conventional)	0	Plants	0	MW
FERC Preliminary Permits (Pumped-storage)	1	Plant	1,250	MW
Total	2	Plants	1,257	MW

Lease of Power Privilege

LOPP Contracts	0	Plants	0	MW
LOPP Preliminary Leases	0	Plants	0	MW
LOPP Posted Public Solicitations	0	Plants	0	MW
LOPP Requests for Development	0	Plants	0	MW
Total	0	Plants	0	MW

Other Renewables

Wind

Total	0	MW
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Solar

San Luis Facility (MP, California) ¹⁸	9-25	MW
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¹⁶ Power from 2 of the 3 plants is marketed by Western: O'Neill and San Luis.

¹⁷ A major generator overhaul is in progress at San Luis (G1).

Total 9-25 MW

Pilot Projects

Total 0 kW

Mid-Pacific Project Updates

Lease of Power Privilege Projects

Project: Lewiston Powerplant Replacement
Developer: Trinity Public Utility District
Status: Terminated

The District has decided to not proceed with the current replacement project due to the high costs incurred to date and the expected costs remaining to complete the project. Options are being explored to determine best strategies moving forward.

Pacific Northwest Renewable Energy Summary

Online Renewable Energy Projects

Hydropower

Reclamation Owned and Operated	10	Plants	7,537	MW
Reclamation Owned and Operated by Others	0	Plants	0	MW
Other Plants on Reclamation Facilities	0	Plants	0	MW
FERC Plants on Reclamation Facilities	25	Plants	321	MW
LOPP Plants	0	Plants	0	MW
Total	35	Plants	7,858	MW

Other Renewables

Solar

Grand Coulee Warehouse (PN, Washington)	5	kW
Total	5	kW

In-Progress Renewable Energy Projects

Reclamation Hydropower

Generator Rewinds/Uprates	0	Plants
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¹⁸ Capacity is dependent upon the amount of land available to be leased.

Reclamation Renewable Energy Update

Turbine Refurbishments/Replacements ¹⁹	1	Plant	
Optimization	0	Plants	
Total	1	Plant	

FERC Licenses on Reclamation Facilities

FERC Licenses	0	Plants	0	MW
FERC Exemptions	5	Plants	7	MW
FERC Preliminary Permits (Conventional)	12	Plants	38	MW
FERC Preliminary Permits (Pumped-storage)	1	Plants	1,000	MW
Total	18	Plants	1,045	MW

Lease of Power Privilege

LOPP Contracts	0	Plants	0	MW
LOPP Preliminary Leases	0	Plants	0	MW
LOPP Posted Public Solicitations	0	Plants	0	MW
LOPP Requests for Development	0	Plants	0	MW
Total	0	Plants	0	MW

Other Renewables

Wind

Total			0	MW
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Solar

Total			0	MW
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Pilot Projects

Hydrokinetic Installation on Roza Canal (Instream Energy)		10	kW
Low-head Technology Installation on Monroe Drop ²⁰		300	kW
Low-head Technology Installation on North Unit Irrigation Canal, Mile 45 ²¹		5,000	kW
Total		5,310	kW

Pacific Northwest Project Updates

Federal Energy Regulatory Commission Projects

Project: Unity Dam by Warm Springs Hydro

Developer: Warm Springs Hydro, LLC

Status: Preliminary Permit Application (P-14576)

¹⁹ A turbine refurbishment/replacement project is in progress at Palisades (G4).

²⁰ The Low-head Technology Installation on Monroe Drop has received a FERC Preliminary Permit and is included in the FERC Preliminary Permits (Conventional) statistic.

²¹ The Low-head Technology Installation on North Unit Irrigation Canal, Mile 45, has received a FERC Exemption and is included in the FERC Exemptions statistic.

On January 13, 2014, Warm Springs Hydro, LLC, filed a preliminary permit application. The proposed project would be located on the Unity Dam and consist of a powerhouse containing two Francis turbine/generator units with a combined rated capacity of 800 kW. The estimated annual generation of the project would be 3,400 MWh.

Upper Colorado Renewable Energy Summary

Online Renewable Energy Projects

Hydropower				
Reclamation Owned and Operated	9	Plants	1,814	MW
Reclamation Owned and Operated by Others ²²	10	Plants	41	MW
Other Plants on Reclamation Facilities	0	Plants	0	MW
FERC Plants on Reclamation Facilities	5	Plants	50	MW
LOPP Plants ²³	7	Plants	31	MW
Total	31	Plants	1,936	MW

Other Renewables				
Solar				
Alamosa (UC, New Mexico)			10	kW
Total			10	kW

In-Progress Renewable Energy Projects

Reclamation Hydropower				
Generator Rewinds/Uprates	0	Plants		
Turbine Refurbishments/Replacements ²⁴	2	Plants		
Optimization	0	Plants		
Total	2	Plants		

FERC Licenses on Reclamation Facilities				
FERC Licenses	0	Plants	0	MW
FERC Exemptions	0	Plants	0	MW
FERC Preliminary Permits (Conventional)	0	Plants	0	MW
FERC Preliminary Permits (Pumped-storage)	2	Plants	800	MW
Total	2	Plants	800	MW

Lease of Power Privilege				
LOPP Contracts	0	Plants	0	MW

²² Power from 3 of the 10 plants is marketed by Western: Deer Creek, Towaoc, and McPhee.

²³ Reclamation holds title to the Grand Valley Powerplant LOPP. South Canal (Drop 1) and South Canal (Drop 3) are recorded as two separate plants.

²⁴ Turbine refurbishments/replacements projects are in progress at Deer Creek (G2) and Glen Canyon (G3).

Reclamation Renewable Energy Update

LOPP Preliminary Leases	3	Plants	19	MW
LOPP Posted Public Solicitations	1	Plant	0.1	MW
LOPP Requests for Development	4	Plants	6	MW
Total	8	Plants	25.1	MW

Other Renewables

Wind

Total	0	MW
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Solar

Total	0	MW
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Pilot Projects

Hydrodynamic Screw Technology Installation on South Canal, Drop 2 ²⁵	850	kW
Total	850	kW

Upper Colorado Project Updates

Lease of Power Privilege Projects

Project: San Juan Chama Project

Developer: N/A

Status: Posted Public Solicitation

A notice of intent to accept proposals, select lessee, and contract for hydroelectric power development on the Reclamation San Juan-Chama Project was posted to the Federal Register on August 7, 2013. Written proposals were due January 6, 2014 (150 days removed from the posting).

One proposal was received from Albuquerque Bernalillo County Water Utility Authority (ABCWUA). ABCWUA qualifies as a preference entity pursuant to Pub. L. 113-24. Following review of the proposal, Reclamation requested clarification and additional information from ABCWUA. Reclamation is currently working ABCWUA to execute a Preliminary Lease and Funding Agreement.

Project: Ridgway Dam

Developer: Tri-County Water Conservancy District

²⁵ Amendments to the existing South Canal LOPP contract may allow the Hydrodynamic Screw Technology Installation on South Canal, Drop 2, pilot project to proceed under the existing LOPP contract. The amendment has been drafted and reviewed by the Solicitor's Office. This pilot project is included in the LOPP Requests for Development statistic.

Status: Lease Contract

The Ridgway Dam LOPP became operational on April 3, 2014. There will be a ceremony commemorating the start-up in June 2014.

Project: Shavano Falls

Developer: Uncompahgre Valley Water Users Association

Status: Preliminary Lease

On August 21, 2013, Reclamation received a request from the Uncompahgre Valley Water Users Association (UVWUA) to develop hydropower on the Shavano Falls conduit drop site. Pursuant to Pub. L. 113-24, Reclamation responded by letter from the Regional Director requesting proposal information (as described in the LOPP Directive and Standard, FAC 04-08). UVWUA provided the information requested on October 14, 2013.

Reclamation executed a Preliminary Lease and Funding Agreement with UVWUA on January 27, 2014. A LOPP contract has been drafted and the negotiation process is underway.

Project: South Canal (Drop 4)

Developer: Uncompahgre Valley Water Users Association

Status: Request for Development

On August 21, 2013, the UVWUA requested to develop hydropower on the South Canal Drop 4 site. Pursuant to Pub. L. 113-24, Reclamation responded by letter from the Regional Director requesting a LOPP proposal. On April 2, 2014, UVWUA provided the requested information for Reclamation to review. Reclamation is currently drafting a Preliminary Lease and Funding Agreement. Execution of the agreement is expected in the near future.

Appendix – Regional Renewable Energy Portfolios

Great Plains Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or Cf Date	License or Lease Date	Online Date
RECLAMATION OWNED AND OPERATED												
WY	Online	Alcoya		Wyoming	USBR	Conventional	41,400.00					1955
CO	Online	Big Thompson		Eastern Colorado	USBR	Conventional	4,500.00					1959
WY	Online	Boysen		Wyoming	USBR	Conventional	15,000.00					1952
WY	Online	Buffalo Bill		Wyoming	USBR	Conventional	18,000.00					1992
MT	Online	Canyon Ferry		Montana	USBR	Conventional	50,001.00					1953
CO	Online	Estes		Eastern Colorado	USBR	Conventional	45,000.00					1950
CO	Online	Flatron (Unit 1, 2, 3)		Eastern Colorado	USBR	Conventional/Pump Storage	98,500.00					1954
WY	Online	Fremont Canyon		Wyoming	USBR	Conventional	66,800.00					1960
WY	Online	Glendo		Wyoming	USBR	Conventional	38,000.00					1959
CO	Online	Green Mountain		Eastern Colorado	USBR	Conventional	26,000.00					1943
WY	Online	Guernsey		Wyoming	USBR	Conventional	6,400.00					1928
WY	Online	Heart Mountain		Wyoming	USBR	Conventional	5,000.00					1948
CO	Online	Kortes		Wyoming	USBR	Conventional	36,000.00					1950
CO	Online	Marys Lake		Eastern Colorado	USBR	Conventional	8,100.00					1951
CO	Online	Mt. Elbert FS		Eastern Colorado	USBR	Pump Storage	200,000.00					1981
WY	Online	Pilot Butte		Wyoming	USBR	Conventional	1,600.00					1929
CO	Online	Pole Hill		Eastern Colorado	USBR	Conventional	38,238.00					1954
WY	Online	Seminole		Wyoming	USBR	Conventional	51,750.00					1939
WY	Online	Shoshone		Wyoming	USBR	Conventional	3,000.00					1992
WY	Online	Spirit Mountain		Wyoming	USBR	Conventional	4,500.00					1994
MT	Online	Yellowtail		Montana	USBR	Conventional	250,000.00					1966
FEDERAL ENERGY REGULATORY COMMISSION PROJECTS												
WY	Online	Garland Canal	3031	Wyoming	Shoshone I.D.	Conventional	2,610.00				10/9/1981	1980
MT	Online	Lower Turnbull Drop	12597	Montana	Turnbull Hydr. LLC	Conventional	7,200.00	6/21/2005			7/28/2006	6/22/2011
OK	Online	McGee Creek Dam	8492	Oklahoma/Texas	McGee Creek Authority	Conventional	175.00	7/26/1984	3/14/1985		6/23/1986	1980
CO	Online	Ruedl Dam	3603	Western Colorado	City of Aspen	Conventional	3,200.00				9/8/1983	1980
CO	Online	Sugarloaf Dam	3819	Eastern Colorado	STS Hydropower Ltd.	Conventional	2,800.00				11/18/1982	1980
MO	Online	Tiber Dam	3574	Montana	Tiber Montana LLC	Conventional	7,500.00		11/20/1990		6/2/1997	6/14/2004
MT	Online	Upper Turnbull Drop	12598	Montana	Turnbull Hydr. LLC	Conventional	5,300.00	6/24/2005			7/28/2006	6/24/2011
MT	License	Clark Canyon Dam	12429	Montana	Clark Canyon Hydro, LLC	Conventional	4,200.00	1/1/2003			8/15/2003	
MT	License	Gibson Dam	12478	Montana	Gibson Dam Hydroelectric Company, LLC.	Conventional	15,000.00	10/28/2003	4/20/2004		1/12/2012	
MT	Exemption	Mary Taylor Drop	14294	Montana	Turnbull Hydr. LLC	Conventional	890.00	9/23/2011		6/28/2012		
WY	Preliminary	Deer Creek Drop	14370	Wyoming	Willwood Irrigation District	Conventional	780.00	3/6/2012			9/19/2012	
NE	Preliminary	Medicine Creek Dam	13648	Nabraska/kansas	Twin Valleys Public Power District	Conventional	800.00	12/30/2009	6/15/2010			
WY	Preliminary	Willwood Diversion Dam	13423	Wyoming	Willwood Irrigation District	Conventional	2,000.00	4/6/2009	7/7/2009			
WY	Preliminary	Black Canyon Pumped Storage Project	14087	Wyoming	Black Canyon Hydro, LLC	Pump Storage	700,000.00	1/25/2011	7/15/2011			
WY	Preliminary	Medicine Bow Pumped Storage	13836	Wyoming	Medicine Bow Hydro, LLC	Pump Storage	400,000.00	8/30/2010	12/3/2010			
MT	Preliminary	Square Butte Pumped Storage	13349	Montana	Square Butte Hydro LLC	Pump Storage	1,032,000.00	12/23/2008	7/23/2012			
LEASE OF POWER PRIVILEGE PROJECTS												
CO	Online	Carter Lake Outlet		Eastern Colorado	Northern Water Conservancy District	Conventional	2,600.00	5/7/2009	11/24/2009		4/22/2011	5/18/2012
CO	Preliminary	Gandy Dam	LP11-3	Eastern Colorado	Northern Water Conservancy District	Conventional	700.00	4/20/2011	6/26/2012			
CO	Preliminary	Pueblo Dam	LP11-4	Eastern Colorado	Southeastern Colorado Water Conservancy District, Colorado Springs Utilities, and Board of Water Works of Pueblo, Colorado	Conventional	5,800.00	4/20/2011	2/27/2012			
MT	Request for Development	Helena Valley Pumping Plant		Montana	Helena Valley Irrigation District	Conventional	4,800.00	9/13/2013				
MT	Request for Development	Yellowtail Afterbay		Montana	Crow Tribe	Conventional	9,000.00	1/11/2012				

Lower Colorado Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or CE Date	License or Lease Date	Online
RECLAMATION OWNED AND OPERATED												
AZ	Online	Davis		Yuma	USBR	Conventional	255,000.00					1951
AZ/NV	Online	Hoover		Lower Colorado	USBR	Conventional	2,078,800.00					1936
AZ	Online	Parker		Yuma	USBR	Conventional	120,000.00					1943
RECLAMATION OWNED AND OPERATED BY OTHERS												
AZ	Online	Arizona Falls Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional	750.00					1902
AZ	Online	Cross Cut Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional	3,000.00					1914
AZ	Online	Horse Mesa Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional/Pump Storage	129,000.00					1927
AZ	Online	Morrison Flat Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional/Pump Storage	60,000.00					1926
AZ	Online	New Waddell Pump/Generating Plant		Phoenix	Central Arizona Water Conservation District	Pump Storage	45,000.00					1993
CA	Online	Senator Wash Pump/Generating Plant		Yuma	Imperial Irrigation District	Pump Storage	7,200.00					1966
AZ	Online	Siphon Drop Powerplant		Yuma	Yuma County Water User's Association	Conventional	4,600.00					1926
AZ	Online	South Consolidated Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional	1,400.00					1912
AZ	Online	Stewart Mountain Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional	10,400.00					1930
AZ	Online	Theodore Roosevelt Powerplant		Phoenix	Salt River Valley Water User's Association	Conventional	36,020.00					1973
OTHER PLANTS ON RECLAMATION FACILITIES												
AZ	Online	C.C. Craigin Dam and Powerplant	2304	Phoenix	Salt River Project	Conventional	3,000.00					1965
AZ	Online	Drop Five Powerplant		Yuma	Imperial Irrigation District	Conventional	4,000.00					1982
AZ	Online	Drop Four Powerplant		Yuma	Imperial Irrigation District	Conventional	19,600.00					1941
AZ	Online	Drop One Powerplant		Yuma	Imperial Irrigation District	Conventional	6,000.00					1984
AZ	Online	Drop Three Powerplant		Yuma	Imperial Irrigation District	Conventional	9,800.00					1941
AZ	Online	Drop Two Powerplant		Yuma	Imperial Irrigation District	Conventional	10,000.00					1953
AZ	Online	Pilot Knob Powerplant		Yuma	Imperial Irrigation District	Conventional	33,000.00					1961
FEDERAL ENERGY REGULATORY COMMISSION PROJECTS												
NV	Preliminary	Blue Diamond Pumped Storage Project	14344	Regional Office	The International Consortium of Energy Managers	Pump Storage	450,000.00	1/6/2012			7/11/2012	
NV	Preliminary	Eldorado Pumped Storage Project	13864	Regional Office	Eldorado Pumped Storage, LLC	Pump Storage	400,000.00	10/13/2010			2/3/2012	
AZ	Preliminary	Longview Pumped Storage Project	14341	Regional Office	Longview Energy Exchange, LLC	Pump Storage	2,000,000.00	1/3/2012			5/4/2012	
AZ	Preliminary	Verde Pumped Storage Project	14061	Phoenix	Arizona Independent Power	Pump Storage	795,000.00	1/12/2011			8/15/2011	
LEASE OF POWER PRIVILEGE PROJECTS												
AZ	Request for Development	Laguna Dam		Yuma		Conventional	2,200.00	1/28/2013				
AZ	Request for Development	Santa Rosa Canal		Phoenix	MariCopa-Stanfield Irrigation and Drainage District	Conventional	375.00	9/4/2012				
SOLAR PROJECTS												
NV	Online	Boulder City Regional Office Building		Regional Office	Boulder City Regional Office Building		276.36					
NV	Online	Boulder City Regional Office Building (parking)		Regional Office	Boulder City Regional Office Building		5.97					
NV	Online	Hoover Spillway House Renovation		Regional Office	Boulder City Regional Office Building		48.00					Aug-13
WIND PROJECTS												
AZ	In Development	Mohave County Wind Farm		Regional Office	Mohave County		500,000.00					

Mid-Pacific Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or CE Date	License or Lease Date	Online
RECLAMATION OWNED AND OPERATED												
CA	Online	Folsom		Central California	USBR	Conventional	207,000.00					1955
CA	Online	Judge Francis Carr		Northern California	USBR	Conventional	154,400.00					1963
CA	Online	Keswick		Northern California	USBR	Conventional	117,000.00					1950
CA	Online	Lewisdon		Northern California	USBR	Conventional	350.00					1964
CA	Online	New Melones		Central California	USBR	Conventional	380,000.00					1979
CA	Online	Nimbus		Central California	USBR	Conventional	13,500.00					1955
CA	Online	Shasta		Northern California	USBR	Conventional	714,000.00					1944
CA	Online	Spring Creek		Northern California	USBR	Conventional	180,000.00					1964
CA	Online	Stampede		Lahontan Basin	USBR	Conventional	3,650.00					1988
CA	Online	Trinity		Northern California	USBR	Conventional	140,000.00					1964
RECLAMATION OWNED AND OPERATED BY OTHERS												
CA	Online	San Luis/Gianelli Pumping-Generating Plant		South Central California	California Department of Water Resources	Pump Storage	424,000.00					1968
NV	Online	Lahontan Powerplant		Lahontan Basin	Truckee-Carson Irrigation District	Conventional	2,400.00					1911
CA	Online	O'Neill Pumping-Generating Plant		South Central California	San Luis Delta-Mendota Water Authority	Pump Storage	25,200.00					1967
FEDERAL ENERGY REGULATORY COMMISSION PROJECTS												
OR	Online	East Side	2082	Klamath Basin	Scottish Power (PacifiCorp)	Conventional	3,200.00					
CA	Online	Friant Fishwater Release	11068	South Central California	Orange County Irrigation District	Conventional	510.00				5/16/1991	
CA	Online	Friant Power	2992	South Central California	Friant Power Authority	Conventional	27,360.00				9/30/1982	6/13/1905
CA	Online	High Line Canal	7252	Northern California	Santa Clara	Conventional	530.00				7/17/1984	
CA	Online	Madera Canal	5765	South Central California	Madera-Chowchilla Water & Power Authority	Conventional	440.00	11/16/1981	4/27/1982		9/8/1983	
CA	Online	Madera Canal Water Power STA.1174+84	2958	South Central California	Madera-Chowchilla Water & Power Authority	Conventional	563.00	11/23/1981			6/8/1982	
CA	Online	Madera Canal Water Power STA.1923+10	2958	South Central California	Madera-Chowchilla Water & Power Authority	Conventional	916.00	11/23/1981			6/8/1982	
CA	Online	Madera Canal Water Power STA.980+65	2958	South Central California	Madera-Chowchilla Water & Power Authority	Conventional	2,125.00	11/23/1981			6/8/1982	
CA	Online	Monticello	2780	Central California	Solano I.D.	Conventional	11,500.00				1/29/1981	Jun-83
NV	Online	New Lahontan	7828	Lahontan Basin	Truckee-Carson I.D.	Conventional	4,000.00				12/26/1985	6/12/1989
CA	Online	Stony Gorge Hydroelectric	3193	Northern California	Santa Clara, City of	Conventional	4,900.00				8/31/1982	Apr-86
OR	Online	West Side	2082	Klamath Basin	Scottish Power (PacifiCorp)	Conventional	600.00					
CA	Online	Whiskey Dam Power Project	2888	Northern California	City of Redding	Conventional	3,530.00	2/17/1982			3/10/1983	6/8/1905
CA	License	Friant Fishwater Release	11068	South Central California	Orange County Irrigation District	Conventional	7,000.00				5/16/1991	
OR	Preliminary	Bryant Mountain (Pumped Storage)	13680	Klamath Basin	Bryant Mountain LLC	Pump Storage	1,250,000.00	3/1/2010	9/24/2010			
LEASE OF POWER PRIVILEGE PROJECTS												
OR	Online	Klamath Canal Drop C		Klamath Basin	Klamath Irrigation District	Conventional	900.00	2/8/2011			11/8/2011	5/3/2012
SOLAR PROJECTS												
CA	In Development	San Luis Facility		South Central California			9,000.00 - 25,000.00	8/5/2011	12/13/2011			

Pacific Northwest Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or CF Date	License or Lease Date	Online
RECLAMATION OWNED AND OPERATED												
WA	Online	Anderson Ranch		Snake River	USBR	Conventional	40,000.00					1950
WA	Online	Black Canyon		Snake River	USBR	Conventional	10,200.00					1925
WA	Online	Boise River Diversion		Snake River	USBR	Conventional	3,450.00					1912
WA	Online	Chandler		Columbia Cascades	USBR	Conventional	12,000.00					1956
WA	Online	Grand Coulee		Columbia Cascades	USBR	Conventional/Pump Storage	6,809,000.00					1941
OR	Online	Green Springs		Columbia Cascades	USBR	Conventional	17,290.00					1960
MT	Online	Hungry Horse		Columbia Cascades	USBR	Conventional	428,000.00					1952
ID	Online	Minidoka		Snake River	USBR	Conventional	27,700.00					1942
ID	Online	Palisades		Snake River	USBR	Conventional	176,564.00					1957
WA	Online	Rozza		Columbia Cascades	USBR	Conventional	12,937.00					1958
FEDERAL ENERGY REGULATORY COMMISSION PROJECTS												
WA	Online	American Falls	2736	Snake River	Idaho Power Co	Conventional	92,400.00				3/31/1975	1975
ID	Online	ARROWROCK DAM	4656	Snake River	Big Bend Irrigation District, et. al.	Conventional	15,000.00		8/15/1983		3/27/1989	Mar-10
ID	Online	CASCADE	2848	Snake River	Idaho Power Co.	Conventional	12,420.00		2/17/1981		2/17/1981	3/4/1985
WA	Online	COWICHE	7337	Columbia Cascades	Yakima-Tieton ID	Conventional	1,470.00				7/6/1984	1986
ID	Online	Dietrich Drop	8909	Snake River	Big Wood Canal Company	Conventional	4,770.00	3/7/1985			5/22/1987	1989
WA	Online	ELTOPIA BRANCH CANAL	3842	Columbia Cascades	East, Quincy, & South, Columbia Basin ID's	Conventional	2,200.00				12/9/1981	1982
WA	Online	ESQUATZEL POWER	12638	Columbia Cascades	Green Energy Today LLC	Conventional	900.00	1/4/2006				Apr-12
ID	Online	FARGO DROP NO. 1	5042	Snake River	Boise Project Board of Control	Conventional	1,100.00				10/23/1981	Jun-13
ID	Online	FELT HYDRO	5089	Snake River	Fall River Rural Cooperative	Conventional	7,450.00				9/9/1983	1985
ID	Online	ISLAND PARK	2973	Snake River	Fall River Rural Electric	Conventional	4,800.00		7/8/1983		10/19/1988	1982
ID	Online	Little Wood Reservoir	7427	Snake River	Little Wood Irrigation District	Conventional	3,000.00				4/13/1984	1989
WA	Online	LOW LINE NO. 8 ARENA DROP	5056	Snake River	Boise Project Board of Control	Conventional	385.00	6/10/1981				Apr-12
WA	Online	MAIN CANAL HEADWORKS	2849	Columbia Cascades	East, Quincy, & South, Columbia Basin ID's	Conventional	26,000.00				11/16/1981	1987
ID	Online	MAE 28	10552	Snake River	Contractor's Power Group	Conventional	1,500.00	12/2/1987	9/15/1988		8/12/1992	1996
OR	Online	MITCHELL BUTTE LATERAL	5357	Snake River	Owyhee ID et. al.	Conventional	1,980.00		2/26/1982		12/14/1984	1990
WA	Online	Mora Drop Hydro	3403	Snake River	Boise Kuna Irrigation District et. Al	Conventional	1,900.00			12/18/1980		9/15/2006
WA	Online	ORCHARD AVENUE	7338	Columbia Cascades	Yakima-Tieton ID	Conventional	1,441.00				7/6/1984	1986
OR	Online	OWYHEE DAM	4354	Snake River	Gem I.D., Owyhee I.D., & Ridgeview I.D	Conventional	4,340.00				5/9/1984	1985
WA	Online	OWYHEE TUNNEL NO. 1	4359	Snake River	Gem ID et. al.	Conventional	8,120.00				2/28/1986	6/1/1983
WA	Online	POTHOLES EAST CANAL	3843	Snake River	East, Quincy, & South, Columbia Basin ID's	Conventional	2,400.00				12/9/1981	1982
WA	Online	POTHOLES EAST CANAL HEADWORKS	2840	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	6,500.00				9/21/1982	1991
WA	Online	QUINCY CHUTE	2937	Columbia Cascades	East, Quincy, & South, Columbia Basin ID's	Conventional	9,367.00				8/20/1982	1983
WA	Online	RUSSEL D SMITH PFC 22.7	2926	Columbia Cascades	East, Quincy, & South, Columbia Basin ID's	Conventional	6,100.00				3/27/1980	1982
WA	Online	SUMMITER FALLS	3295	Columbia Cascades	East, Quincy, & South, Columbia Basin ID's	Conventional	92,000.00				8/14/1981	1983
WA	Online	TIFTON DAM	3701	Columbia Cascades	Yakima-Tieton Irrigation District	Conventional	13,600.00				6/27/1991	2007
OR	Exemption	4.5-Mile	13817	Columbia Cascades	Earth by Design	Conventional	5,000.00	7/16/2010				12/17/2010
ID	Exemption	FARGO DROP NO. 2	5040	Snake River	Boise Project Board of Control	Conventional	175.00					10/23/1981
ID	Exemption	MAIN CANAL NO. 10	5041	Snake River	East, Quincy, & South, Columbia Basin ID's	Conventional	500.00					10/23/1981
ID	Exemption	MAIN CANAL NO. 6	5038	Snake River	East, Quincy, & South, Columbia Basin ID's	Conventional	1,055.00					10/23/1981
ID	Exemption	WALDVOGEL BLUFF	5043	Snake River	Boise Project Board of Control	Conventional	300.00	6/30/1981				12/23/1981
WA	Preliminary	16.4 Wasteway	14349	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,750.00	7/29/2011				3/26/2013
WA	Preliminary	46A Wasteway	14351	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,600.00	7/29/2011				3/26/2013
OR	Preliminary	Mason Dam Hydro	12686	Snake River	Baker County	Conventional	3,400.00	4/25/2006			5/28/2010	
OR	Preliminary	Monroe Drop	14430	Columbia Cascades	Natei	Conventional	300.00	7/2/2012			3/28/2013	
WA	Preliminary	PEC 1973 Drop	14316	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	2,200.00	11/8/2011				3/26/2013
WA	Preliminary	Pinto Dam	14380	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	3,400.00	4/4/2012				10/10/2012
WA	Preliminary	Rocky Coulee Wasteway	14372	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	12,000.00	3/13/2012				7/11/2012

Pacific Northwest Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or CE Date	License or Lease Date	Online
WA	Preliminary	Scoteneey Outlet Drop	14317	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,300.00	5/31/2011	3/26/2013			
WA	Preliminary	Scoteneey Wasteway	14352	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,110.00	7/28/2011	3/26/2013			
WA	Preliminary	Scoteneey Inlet Drop	14318	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,700.00	5/31/2011	3/26/2013			
WA	Preliminary	Warm Springs Dam	13570	Snake River	Ted Sorenson	Conventional	2,500.00	8/12/2009	2/22/2010			
WA	Preliminary	Wicklup Dam Hydro	12965	Columbia Cascades	Symbiotics	Conventional	7,150.00	8/17/2007	5/15/2008			
WA	Preliminary	Banks Lake Pumped Storage Project	14329	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Pump Storage	1,000,000.00	11/30/2011	8/22/2013			
SOLAR PROJECTS												
WA	Online	Grand Coulee Solar		Columbia Cascades	Grand Coulee		4.70					Oct-12
PILOT PROJECTS												
WA	Testing	Instream Energy Roza Division Hydrokinetics		Columbia Cascades	Instream Energy	Hydrokinetics	10.00					Aug-13

Upper Colorado Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or CE Date	License or Lease Date	Online
RECLAMATION OWNED AND OPERATED												
CO	Online	Blue Mesa		Western Colorado	USBR	Conventional	86,400.00					1967
CO	Online	Crystal		Western Colorado	USBR	Conventional	31,500.00					1978
CO	Online	Elephant Butte		Albuquerque	USBR	Conventional	27,945.00					1940
NM	Online	Fanning Gorge		Provo	USBR	Conventional	151,500.00					1963
WY	Online	Fontenelle		Provo	USBR	Conventional	10,000.00					1968
AZ	Online	Glen Canyon		Western Colorado	USBR	Conventional	1,320,000.00					1965
CO	Online	Lower Molina		Western Colorado	USBR	Conventional	4,860.00					1962
CO	Online	Morrow Point		Western Colorado	USBR	Conventional	173,334.00					1971
CO	Online	Upper Molina		Western Colorado	USBR	Conventional	8,640.00					1962
RECLAMATION OWNED AND OPERATED BY OTHERS												
UT	Online	Cañey Powerplant		Provo	Weber Basin Water Conservancy District	Conventional	1,900.00					1999
UT	Online	Deer Creek Powerplant		Provo	Provo River Water Users Association	Conventional	4,950.00					1958
UT	Online	Gateway Powerplant		Provo	Weber Basin Water Conservancy District	Conventional	4,275.00					1958
UT	Online	Lower Spanish Fork Powerplant		Provo	Strawberry Water User's Association	Conventional	250.00					1937
CO	Online	McPhee Powerplant		Western Colorado	Dolores Water Conservancy District	Conventional	1,283.00					1992
UT	Online	Onsted Powerplant		Provo	Purchased from PacifiCorp in 1990	Conventional	10,300.00					1904
UT	Online	Payson Powerplant		Provo	Strawberry Water User's Association	Conventional	400.00					1941
CO	Online	Towaco Powerplant		Western Colorado	Dolores Water Conservancy District	Conventional	11,495.00					1994
UT	Online	Upper Spanish Fork Waship Powerplant		Provo	Strawberry Water User's Association	Conventional	3,900.00					1909
UT	Online			Provo	Weber Basin Water Conservancy District	Conventional	1,900.00					1958
FEDERAL ENERGY REGULATORY COMMISSION PROJECTS												
UT	Online	Echo Dam	3755	Provo	City of Bountiful	Conventional	4,500.00		11/30/1981		12/7/1984	6/9/1905
NM	Online	El Vado Dam	5226	Albuquerque	County of Los Alamos	Conventional	8,000.00		1/4/1982		10/31/1985	7/1/1988
CO	Online	Navajo Dam	4720	Western Colorado	City of Farmington	Conventional	30,000.00		10/15/1985		2/1/1988	10/1/1988
UT	Online	Pineview Dam	4597	Provo	Weber-Box Elder Conservancy District	Conventional	1,800.00				3/16/1984	6/13/1905
CO	Online	Vallecito Dam	3174	Western Colorado	Pramligan Resources & Energy, Inc.	Conventional	5,880.00				10/5/1983	5/1/1989
UT	Preliminary	Lake Powell Hurricane Cliffs Pumping Plant	12966	Regional Office	State of Utah	Pump Storage	300,000.00	8/21/2007	5/20/2011			
CO	Preliminary	Plateau Creek Pumped Storage	14426	Western Colorado	Dolores Water Conservancy District	Pump Storage	500,000.00	5/10/2012	10/1/2012			
LEASE OR POWER PRIVILEGE PROJECTS												
CO	Online	Grand Valley Project		Western Colorado	Grand Valley Water Users Assoc., Orchard Mesa Irrigation Dist., PSCO	Conventional	3,000.00				1933	1938
CO	Online	Jackson Gulch Dam		Western Colorado	Maneros Water Conservancy Dist.	Conventional	260.00				1955	1995
UT	Online	Jordanelle Dam		Provo	Central Utah Water Conservancy Dist., Heber Light and Power	Conventional	13,000.00	7/2/1999			2008	7/1/2008
CO	Online	Lennon Dam		Western Colorado	Florida Water Conservancy District	Conventional	120.00				1989	9/1/1988
CO	Online	South Canal (Drop 1)		Western Colorado	Uncompangre Valley Water Users and the Delta-Montrose Electric Association	Conventional	4,000.00	8/26/2009			3/16/2012	6/3/2013
CO	Online	South Canal (Drop 3)		Western Colorado	Uncompangre Valley Water Users and the Delta-Montrose Electric Association	Conventional	3,500.00	8/26/2009			3/16/2012	8/1/2013
CO	Online	Ridgeway Dam		Western Colorado	Tri-County Water Conservancy District	Conventional	7,000.00	6/2/2010			2/6/2012	4/3/2014
NM	Preliminary	Caballo Dam		Albuquerque	Hydropower Capital	Conventional	5,900.00	9/22/2011	12/4/2012			
UT	Preliminary	Spanish Fork Flow Control Structure	LP11-2	Provo	Central Utah Water Conservancy District, Strawberry Water Users Association and South Utah Valley Electric Service District	Conventional	8,000.00	5/11/2011	3/9/2012			
CO	Preliminary	Shavano Falls		Western Colorado	Uncompangre Valley Water Users Association	Conventional	5,168.00	8/21/2013	1/27/2014			
NM	Posted Solicitation	San Juan Chama Project	LP12-1-000	Albuquerque	Albuquerque Bemalillo County Water Utility Authority	Conventional	100.00	7/6/2012				
CO	Request for Development	Rifle Gap Dam		Western Colorado		Conventional	341.00					
CO	Request for Development	South Canal (Drop 4)		Western Colorado	Uncompangre Valley Water Users Association	Conventional	4,242.00	8/21/2013				

Upper Colorado Renewable Portfolio

State	Project Status	Project Name	FERC ID	Area Office	Operating Entity	Hydropower Type	Capacity (kW)	Project Initiation Date	Preliminary Permit or Lease Date	Exemption or CE Date	License or Lease Date	Online
CO	Request for Development	South Canal (Drop 5)		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	291.00	8/21/2013				
PILOT PROJECTS												
CO	Request for Development	South Canal (Drop 2)		Western Colorado	Pecheron Power, LLC, Delta-Montrose Electric Association, Uncompahgre Valley Water Users Association	Hydrodynamic Screw	850.00					