

RECLAMATION

Managing Water in the West

Bureau of Reclamation Renewable Energy Update

Fiscal Year 2015, Q3



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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 Daniel Vallejo, Rick Clayton, Robert Ross, Dale Lentz, and James Stauffer were instrumental in developing this document.

Renewable Activities

Pumping Demand Response Study

Reclamation projects rely on over 900 pumping plants for water conveyance. Annually, pumping demand consumes approximately eight percent of Reclamation's total hydropower output (~ 3.2 billion kilowatt hours [kWh]). Under the [Bureau of Reclamation's Sustainable Energy Strategy](#), Reclamation is seeking to better understand what opportunities exist to:

1. Reduce pumping load through equipment upgrades; and
2. Shift pumping load or employ demand response to support renewable energy integration and grid stability.

To evaluate these opportunities, Reclamation has partnered with the Central Arizona Water Conservancy District to perform a case study at the Central Arizona Project. The completed study will evaluate these opportunities within the Central Arizona Project and inform subsequent analyses and evaluations at other Reclamation projects.

A project kick-off meeting was held in June 2015 with Reclamation and District representatives. The final summary report is expected July 2016.

Reclamation Renewable Energy Summary

Online Hydropower Facilities	GP		LC		MP		PN		UC		USBR	
	#	MW ¹	#	MW	#	MW	#	MW	#	MW	#	MW
Reserved Facilities	21	1008	3	2454	10	1910	10	7537	9	1816	53	14725
Transferred Facilities ²	0	0	10	297	3	452	0	0	10	41	23	790
Other Plants on USBR Facilities	0	0	7	85	0	0	0	0	0	0	7	85
FERC Facilities ³	7	29	0	0	13	60	25	321	5	50	50	460
LOPP Facilities ⁴	1	3	0	0	1	1	0	0	9	38	11	42
Total	29	1040	20	2836	27	2423	35	7858	33	1945	144	16102

In Development FERC Facilities	GP		LC		MP		PN		UC		USBR	
	#	MW	#	MW	#	MW	#	MW	#	MW	#	MW
Licenses	1	15	0	0	2	8	0	0	0	0	3	23
Exemptions	1	1	0	0	0	0	6	7	0	0	7	8
Preliminary Permits (C) ⁵	3	4	0	0	0	0	10	27	0	0	13	31
Preliminary Permits (PS) ⁶	3	2132	4	3645	1	1250	1	1000	2	800	11	8827
Total	8	2152	4	3645	3	1258	17	1034	2	800	34	8889

In Development LOPP Facilities	GP		LC		MP		PN		UC		USBR	
	#	MW	#	MW	#	MW	#	MW	#	MW	#	MW
Contracts	1	1	0	0	0	0	0	0	1	1	2	2
Preliminary Leases	2	16	0	0	0	0	0	0	2	10	4	26
Posted Solicitations	0	0	0	0	0	0	0	0	1	0.1	1	0.1
Requests for Development (C)	4	7	2	3	2	0.4	0	0	2	13	10	23
Requests for Development (PS)	0	0	0	0	0	0	1	400	0	0	1	400
Total	7	24	2	3	2	0	1	400	6	24	18	451

¹ Megawatt (MW).

² Power from five of the 23 plants is marketed by the Western Area Power Administration (Western): Deer Creek, Towaoc, McPhee, O’Neill, and San Luis.

³ Non-federal hydropower facilities developed on Reclamation infrastructure, licensed by the Federal Energy Regulatory Commission (FERC).

⁴ Non-federal hydropower facilities developed on Reclamation infrastructure, authorized through a Lease of Power Privilege (LOPP) contract. Reclamation holds title to the Grand Valley Powerplant LOPP.

⁵ Conventional hydropower facilities.

⁶ Pump storage hydropower facilities.

Reclamation Renewable Energy Update FY15 Q3

In Progress Capital Improvements	GP	LC	MP	PN	UC	USBR
Generator Rewinds	1	0	2	0	1	4 ⁷
Turbine Replacements	0	0	1	1	1	3 ⁸
Total	1	0	3	1	2	7

Online Solar Facilities	Region	State	kW ⁹
Alamosa	UC	New Mexico	10
Grand Coulee Warehouse	PN	Washington	5
Boulder City Regional Office Building	LC	Nevada	276
Boulder City Regional Office Building (Parking)	LC	Nevada	6
Hoover Spillway House Renovation	LC	Nevada	48
Total			345

In Development Solar Facilities	Region	State	MW
First Solar	LC	Nevada	50
San Luis Facility	MP	California	9-25 ¹⁰
River Mountains	LC	Nevada	14
Blythe Office	LC	California	0.02
Total			73-89

In Development Wind Facilities	Region	State	MW
Mohave County Wind Farm	LC	Arizona	500
Total			500

Hydropower Pilot Projects	Region	State	kW
Hydrokinetic Installation on Roza Canal (Instream Energy)	PN	Washington	10
Low-head Technology Installation on Monroe Drop ¹¹	PN	Oregon	300
Low-head Technology Installation on North Unit Irrigation Canal, Mile 45 ¹²	PN	Oregon	5000
Hydrodynamic Screw Technology Installation on South Canal, Drop 2 ¹³	UC	Colorado	987
Total			6297

⁷ Rewinds are in progress at Yellowtail (G3), Folsom (G3), Spring Creek (G2), and Glen Canyon (G6). The San Luis (G1) rewind was completed June 2015.

⁸ Turbine replacements are in progress at Trinity (G1), Palisades (G3), and Glen Canyon (G2).

⁹ Kilowatt (kW).

¹⁰ Capacity is dependent upon the amount of land available to be leased.

¹¹ The low-head technology installation on Monroe Drop has received a FERC Exemption and is included in the FERC Exemptions 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 The hydrodynamic screw technology installation on South Canal, Drop 2 has received a LOPP Contract and is included in the LOPP Contracts statistic.

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. For additional information see the [WaterSMART Web site](#).

WaterSMART Updates

The fiscal year (FY) 2015 WaterSMART Water and Energy Efficiency Grant (WEEG) Funding Opportunity Announcement was posted on October 30, 2014. The application deadline was January 23, 2015. On May 20, 2015, successful projects were announced. In total, Reclamation awarded nearly \$50 million in water and energy efficiency grants to 50 projects. FY 2015 WaterSMART WEEG projects that feature a renewable energy component are summarized below.

Recipient: Bella Vista Water District
Project: Renewable Energy, Advanced Metering Infrastructure, and Water Conservation Improvements

The Bella Vista Water District in Redding, California, will install Advanced Metering Infrastructure equipment on the District's 200 largest agricultural and irrigation meters, replace 80 existing meters (propeller and turbine type) with more accurate meters (compound and magnetic flow type), and offer smart irrigation controllers and landscape irrigation audits to customers with large irrigation demand. The proposed meters, controllers and audits are expected to result in annual water savings of 438 acre-feet. Water conserved through the project will reduce the District's pumping demand from the Sacramento River. In addition, the project includes the installation of a 500 kW solar facility that will be used to support District operations. The solar installation is expected to generate 775,691 kWh of energy annually, offsetting 72% of the District's annual electricity consumption.

Recipient: Uncompahgre Valley Water Users Association
Project: South Canal Drop 4 Hydropower Development

The Uncompahgre Valley Water Users Association in Montrose, Colorado, will install a 4.8 MW hydroelectric facility on the existing "Drop 4" irrigation canal drop structure located on the South Canal. The Association expects to generate 17,817,000 kWh annually, which will be provided locally to the City of Delta,

Colorado. As part of the project, the Association will also pipe 1,344 linear feet of canal, thereby allowing water to bypass leaking canals through a steel penstock. The project is expected to result in annual water conservation of 77 acre-feet of water annually due to seepage. The water conserved by this project will be made available to downstream water users. The project implements adaptation strategies that were addressed in the 2012 WaterSMART Colorado River Basin Water Supply and Demand Study, which the Association participated in as a stakeholder.

Recipient: Navajo Agricultural Product Industry
Project: Create and Implement a Comprehensive Water Management Web-Based Tool for Ordering and Delivering Irrigation Water

The Navajo Agricultural Products Industry (NAPI) located in Farmington, New Mexico will install two 12 kW in-line micro hydropower units in existing center pivot pipelines. The 48,000 kWh of expected generation will power the two center pivots. In addition, NAPI will create and implement a web-based water management tool, allowing users to schedule, order, and deliver irrigation water, and better manage pumping load and control gate settings to ensure water deliveries and reduce spills. Through improved control gate settings and reduced spills, NAPI expects to conserve 580 acre-feet of water per year. Conserved water will allow the Navajo Nation to better meet reservation water demands.

Recipient: Three Sisters Irrigation District
Project: Main Canal Pipeline and Micro Hydro Generation Project

Reclamation Funding: \$1,000,000 Total Project Cost: \$4,737,906 The Three Sisters Irrigation District in Oregon will pipe 14,000 feet of the open Watson-McKenzie Main Canal. The project is expected to result in annual water savings of 1,900 acre feet that is currently being lost to seepage. A portion of the conserved water will be dedicated for instream flows to Whychus Creek in order to improve riparian habitat and benefit Bullhead Trout, Steelhead, Chinook and Sockeye Salmon, Oregon Spotted Frogs, willow flycatcher and yellow breasted chat. The District is working with the Deschutes River Conservancy to dedicate approximately 1,400 acre feet annually that will be conserved as a result of this project into a water right held by the State of Oregon. In addition, with completion of this project, pressurized water will eliminate electrical pumps on farm, which are using over 3 million kWh of electricity annually. The pressurized pipeline resulting from this project will also allow farmers who receive deliveries from the District to implement further improvements. As part of an existing partnership, the Natural Resources Conservation Service will provide assistance, as available, for those farmers to expedite coordinated water conservation improvements in the area. The project also includes the installation of 4 micro-hydro turbines, which have a combined energy capacity of 200 kW.

Recipient: Cameron County Irrigation District No. 6

Project: Conversion of the Saldana Canal into Pipeline, Elimination of the Saldana Pump by Construction of Aerial Crossing and Solar Powered Second Lift Pump

Cameron County Irrigation District No. 6 in southern Texas will enclose 3,800 feet of open canal with pipe, replace an existing pump station with a new aerial crossing, and install a solar powered lift pump. The project is expected to result in annual water savings of 275 acre-feet through reduced seepage losses, which will help to alleviate shortages due to drought in the Lower Rio Grande Basin. In addition, the solar powered lift pump is expected to generate 53,000 kWh per year. The project also includes the construction of an outlet that will facilitate supplying water to the Lower Rio Grande Valley National Wildlife Refuge. Conserved water will be allocated to District customers and the Wildlife Refuge.

Recipient: Santa Cruz Irrigation District No. 15
Project: Shotcrete Lining of the N-Canal, Installation of a VFD at Pump-15, and Wind Powered Alternative at Pump 15

The Santa Cruz Irrigation District No. 15 in southern Texas will line 7,265 feet of the existing N-Canal, install a variable frequency drive at the existing Pump-15 Lift Station, and construct a wind powered pump to provide auxiliary power to the Pump-15 Lift Station. Annually, the project is expected to result in water savings of 955 acre-feet by eliminating seepage in the canal and wind power generation of 1,733 kWh. Conserved water will be left in the system.

Recipient: Davis and Weber Counties Canal Company
Project: Canal Piping and Hydro Project

The Davis and Weber Counties Canal Company in Sunset, Utah, will enclose 2,000 feet of open, unlined earthen canal with a 66-inch diameter reinforced concrete pipe. The proposed project will reduce seepage and is expected to result in annual water savings of 365 acre-feet. Conserved water will provide a more secure water right, alleviate the impacts of drought, and provide irrigation, residential, and environmental benefits. In addition, the Company will install a 10 kW hydropower turbine along the main canal, which is expected to generate 43,200 kWh of energy each year. The turbine will power the Company's main river diversion gates and other high energy demands such as pumping; excess power will be sold back to the local utility, providing renewable energy along the Wasatch Front. The project implements work identified in the Davis and Weber Canal Master Plan, which was completed in 2013 as part of a 2011 WaterSMART System Optimization Review grant.

Recipient: Davis and Weber Counties Canal Company
Project: Secondary Water Irrigation Metering and Hydro Project

The Davis and Weber Counties Canal Company will also install 700 meters for secondary water end users, which are expected to result in annual water savings of 152 acre-feet that is currently being lost to overuse. Conserved water will be left in the Echo and East Canyon reservoirs, providing a more secure water right, mitigating drought, and providing irrigation, residential, and environmental benefits. In addition, the Company will install a 20 kW small hydropower generation reversible pump turbine at the end of the secondary water system's lowest elevation reservoir main diversion, which is expected to generate 27,000 kWh of power per year. The project implements work identified in the Davis and Weber Canal Master Plan, which was completed in 2013 as part of a 2011 WaterSMART System Optimization Review grant.

Recipient: Marion Upper Ditch Company

Project: Marion Upper and Lower Ditches Piping Project

The Marion Upper Ditch Company located near Salt Lake City, Utah, will eliminate two existing open, gravity-flow ditches--one within the Marion Upper Ditch Company and one within the Marion Lower Ditch Company--and replace them with one 6.25 mile stretch of pressurized high density polyethylene pipe. The proposed project will reduce seepage, evaporation, and spills, which is expected to result in annual water savings of 2,919 acre-feet. Conserved water will be made available to existing shareholders and to downstream users, including the Echo and Rockport Reservoirs. As part of the project, the Company will also install a 3.7 kW micro-hydro unit, which is expected to generate 10,656 kWh of energy per year. Upon completion of the project, users will be able to convert from flood irrigation to efficient sprinkler systems.

WaterSMART Summary

All active, FY 2011-2014 WaterSMART WEEG projects that feature a renewable energy component are listed below. Full project summaries are available on the [WaterSMART Web site](#).

Fiscal Year	Recipient	Status
2011	Three Sisters Irrigation District	Online (8/2014)
2011	Pershing County Water Conservation District	In development, FERC License
2011	Boise Project Board of Control	Online (4/2013)
2012	Consolidated Irrigation Company	In development, FERC Conduit Exemption. Hydro facility scheduled to come online August 2015.
2013	Cub River Irrigation Company	In development
2014	Nevada Irrigation District	In development
2014	Rosedale-Rio Bravo Water Storage District	In development
2014	Uncompahgre Valley Water Users Association	Online (6/2015)
2014	Oxford Reservoir and Irrigation Company	In development
2014	Elephant Butte Irrigation District	In development
2014	Davis and Weber Counties Canal Company	In development
2014	Fremont Irrigation Company	In development
2014	Holmes Creek Irrigation Company	In development
2014	Richmond Irrigation District	In development

Great Plains Renewable Energy Updates

FERC Projects

Project: Clark Canyon Dam
Developer: Clark Canyon Hydro, LLC
Status: Preliminary Permit Application (P-14677)

On July 27, 2014, FERC issued a notice finding that Clark Canyon Hydro, LLC, had failed to commence construction by the statutory deadline and notifying the consequent probable termination of license. On March 19, 2015, FERC issued an order terminating the license.

On April 20, 2015, Clark Canyon Hydro, LLC submitted an application for Preliminary Permit to FERC. No Preliminary Permit has been awarded at this time.

Concurrently, Senators Lisa Murkowski (R-Alaska) and Maria Cantwell (D-Washington) have introduced the Energy Policy Modernization Act of 2015. In

part, the bill reinstates the Clark Canyon Dam FERC License (P-12429) and extends the project construction commencement deadline for three years.

Project: Gibson Dam
Developer: Gibson Dam Hydroelectric Company, LLC
Status: License (P-12478)

Senators Lisa Murkowski (R-Alaska) and Maria Cantwell (D-Washington) have introduced the Energy Policy Modernization Act of 2015. In part, the bill authorizes FERC to extend the Gibson Dam project construction commencement deadline for six years.

Lease of Power Privilege Projects

Project: Granby Dam
Developer: Northern Water Conservancy District
Status: LOPP Contract

The District's contractor, Aslan Construction, began excavation activities in late May 2015. Powerhouse foundation construction is ongoing as of July 2015. In-tunnel work to install the bifurcation and penstock are scheduled to begin mid-August 2015.

Project: Pueblo Dam
Developer: Southeastern Colorado Water Conservancy District, Colorado Springs Utilities, and Board of Water Works of Pueblo, Colorado
Status: Preliminary Lease

A draft Lease Contract was distributed to parties for review on June 2, 2015.

Project: Yellowtail Afterbay
Developer: Crow Tribe
Status: Preliminary Lease

A Project Management Team has been formed, consisting of Reclamation and Tribe members. The Team is developing a Charter which will establish a framework for communications, risk management, change management, budget tracking, and maintenance. The Team expects to complete the Charter in July 2015.

Project: Helena Valley Pumping Plant
Developer: Helena Valley Irrigation District
Status: Request for Development

The District has partnered with Sleeping Giant Power, LLC. On July 7, 2015, the Partnership Agreement was submitted to Reclamation for solicitor review, along

with the signed Preliminary Lease for final execution. The Preliminary Lease will be held until the Partnership Agreement has been accepted by Reclamation.

Discussions regarding appropriate National Environmental Policy Act (NEPA) compliance are ongoing.

Lower Colorado Renewable Energy Updates

Solar Projects

Project: River Mountains
Developer: Southern Nevada Water Authority and SunEdison
Status: In Development

SunEdison will install and operate a 14 MW solar array sited on the Authority's River Mountains Water Treatment Facility. The Treatment Facility is located on Reclamation land, as part of the Robert B. Griffin Water Project, approximately ten miles west of Hoover Dam. Because the underlying land is owned by Reclamation, the project will require Reclamation approval. The project is expected to generate approximately 38,000 MWh annually.

The NEPA Environmental Assessment is complete and a Finding of No Significant Impact was signed by the Lower Colorado Region on June 8, 2015.

Mid-Pacific Renewable Energy Updates

No updates available for this quarter.

Pacific Northwest Renewable Energy Updates

FERC Projects

Project: Scooteney Outlet Drop

Developer: Grand Coulee Project Hydroelectric Authority
Status: Surrendered Preliminary Permit (P-14317)

On May 11, 2015, the Grand Coulee Project Hydroelectric Authority filed a petition to voluntarily surrender the Preliminary Permit for the Scooteney Outlet Drop project, issued by FERC on March 26, 2013.

In the petition, the Authority states, “The decision to surrender this preliminary permit... is based on the conclusions of two separate preliminary feasibility studies which have found a potential hydroelectric project at this site to be economically infeasible.”

FERC filed a notice terminating the Preliminary Permit on May 15, 2015.

Project: Scooteney Wasteway
Developer: Grand Coulee Project Hydroelectric Authority
Status: Surrendered Preliminary Permit (P-14352)

On May 11, 2015, the Grand Coulee Project Hydroelectric Authority filed a petition to voluntarily surrender the Preliminary Permit for the Scooteney Wasteway project, issued by FERC on March 26, 2013.

In the petition, the Authority states, “The decision to surrender this preliminary permit... is based on the conclusions of two separate preliminary feasibility studies which have found a potential hydroelectric project at this site to be economically infeasible.”

FERC filed a notice terminating the Preliminary Permit on June 18, 2015.

Project: Rocky Coulee Wasteway
Developer: Grand Coulee Project Hydroelectric Authority
Status: Surrendered Preliminary Permit (P-14372)

On May 11, 2015, the Grand Coulee Project Hydroelectric Authority filed a petition to voluntarily surrender the Preliminary Permit for the Rocky Coulee Wasteway project, issued by FERC on July 11, 2012.

In the petition, the Authority states, “The decision to surrender this preliminary permit... is based on the conclusions of separate preliminary feasibility studies which have found potential hydroelectric projects at both Rocky Coulee Wasteway sites to be infeasible.”

FERC filed a notice terminating the Preliminary Permit on May 19, 2015.

Project: Monroe Drop
Developer: Apple, Inc.

Status: Exemption (P-14430)

On August 1, 2014, FERC issued an Order Granting Exemption from Licensing (Conduit) to the Monroe Drop. On February 18, 2015, the Conduit Exemption was transferred to Apple, Inc.

Lease of Power Privilege Projects

Project: Cat Creek Energy Pump Storage Facility

Developer: Cat Creek Energy, LLC

Status: Request for Development

On November 5, 2014 Cat Creek Energy, LLC submitted a Formal Request for Development to the Pacific Northwest Regional Director to develop the Cat Creek Energy Pump Storage Facility. The proposed pump storage project would utilize the Reclamation Anderson Ranch Reservoir.

Upper Colorado Renewable Energy Updates

Lease of Power Privilege Projects

Project: San Juan Chama Project

Developer: Albuquerque Bernalillo County Water Utility Authority

Status: Posted Solicitation

The Authority developed a conceptual design predicated upon a transmission interconnection with the local electric utility, Northern Rio Arriba Electric Cooperative (NORA). However, the project was put on hold while NORA transferred transmission assets to the Jicarilla Apache Nation Utility Authority (JANUA).

The asset transfer has been finalized and the Authority anticipates an agreement with JANUA to wheel San Juan Chama Project generation. The Authority has requested the Reclamation Albuquerque Area Office develop a draft Preliminary Lease and Funding Agreement. The parties will meet in July 2015 to develop a project plan.

Project: Shavano Falls

Developer: Uncompahgre Valley Water Users Association

Status: Online

Shavano Falls commenced commercial operation on June 24, 2015.

Project: South Canal (Drop 4)
Developer: Uncompahgre Valley Water Users Association
Status: Online

South Canal (Drop 4) commenced commercial operation on June 24, 2015.

Project: South Canal (Drop 5)
Developer: Uncompahgre Valley Water Users Association
Status: Preliminary Lease

A Preliminary Lease and Funding Agreement were executed on June 18, 2015.
The first LOPP Contract negotiation meeting was held on July 1, 2015.

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 CE Date	License or Lease Date	Online Date
RECLAMATION OWNED AND OPERATED												
WY	Online	Alcova		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	Flatiron (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
WY	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 PS		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					1980
MT	Online	Lower Turnbull Drop	12597	Montana	Turnbull Hydro, LLC	Conventional	7,700.00	6/21/2005				7/28/2006
OK	Online	McGee Creek Dam	8492	Oklahoma Texas	McGee Creek Authority	Conventional	175.00	7/26/1984	3/14/1985			6/23/1986
CO	Online	Ruedi Dam	3603	Western Colorado	City of Aspen	Conventional	3,200.00					9/8/1983
CO	Online	Sugarloaf Dam	3819	Eastern Colorado	STS Hydropower Ltd.	Conventional	2,800.00					11/18/1982
MO	Online	Tiber Dam	3574	Montana	Tiber Montana LLC	Conventional	7,500.00		11/20/1990			6/2/1997
MT	Online	Upper Turnbull Drop	12598	Montana	Turnbull Hydro, LLC	Conventional	5,300.00	6/24/2005				7/28/2006
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 Hydro, 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	Nebraska-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
CO	Contract	Granby Dam	LP11-3	Eastern Colorado	Northern Water Conservancy District	Conventional	700.00	4/20/2011	6/26/2012			3/31/2015
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	7,010.00	4/20/2011	2/27/2012			
MT	Preliminary	Yellowtail Afterbay		Montana	Crow Tribe	Conventional	9,000.00	1/11/2012	3/6/2015			
MT	Request for Development	Helena Valley Pumping Plant		Montana	Helena Valley Irrigation District	Conventional	4,800.00	9/13/2013				
MT	Request for Development	A Drop		Montana	Turnbull Hydro, LLC	Conventional	1,000.00	6/1/2014				
MT	Request for Development	Johnson Drop		Montana	Turnbull Hydro, LLC	Conventional	700.00	6/1/2014				

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 CE Date	License or Lease Date	Online Date
MT	Request for Development	Woods Drop		Montana	Turnbull Hydro, LLC	Conventional	900.00	6/1/2014				

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 Date
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	Mormon 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	13861	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
NV	In Development	First Solar		Regional Office	First Solar Development, LLC		50,000.00	Jun-14				
NV	In Development	River Mountains		Regional Office	Southern Nevada Water Authority and SunEdison		14,000.00					
CA	In Development	Blythe Office Solar Installation		Regional Office	USBR		19.00					
WIND PROJECTS												
AZ	In Development	Mohave County Wind Farm		Regional Office	BP Wind Energy North America		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 Date
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	Lewiston		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	2892	South Central California	Friant Power Authority	Conventional	27,360.00					9/30/1982
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
NV	Online	New Lahontan	7828	Lahontan Basin	Truckee-Carson I.D.	Conventional	4,000.00					12/26/1985
CA	Online	Stony Gorge Hydroelectric	3193	Northern California	Santa Clara, City of	Conventional	4,900.00					8/31/1982
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
CA	License	Friant Fishwater Release	11068	South Central California	Orange County Irrigation District	Conventional	7,000.00					5/16/1991
CA	License	Humboldt River Hydropower Project (Rye Patch)	14327	Lahontan Basin	Pershing County Water Conservation District	Conventional	750.00	1/22/2011				1/31/2014
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
CA	Request for Development	A-C3 (Panicker Drop)		Lahontan Basin	Truckee Carson Irrigation District	Conventional	125.00	2014				5/3/2012

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 Date
CA	Request for Development	V-C2 (Lewis Wasteway)		Lahontan Basin	Truckee Carson Irrigation District	Conventional	250.00	2014				
SOLAR PROJECTS												
CA	In Development	San Luis Facility		South Central California	San Luis Renewables, LLC		9,000.00 - 25,000.00	8/5/2011				

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 CE Date	License or Lease Date	Online Date
RECLAMATION OWNED AND OPERATED												
ID	Online	Anderson Ranch		Snake River	USBR	Conventional	40,000.00					1950
ID	Online	Black Canyon		Snake River	USBR	Conventional	10,200.00					1925
ID	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	Mintoka		Snake River	USBR	Conventional	27,700.00					1942
ID	Online	Palisades		Snake River	USBR	Conventional	176,564.00					1957
WA	Online	Roza		Columbia Cascades	USBR	Conventional	12,937.00					1958
FEDERAL ENERGY REGULATORY COMMISSION PROJECTS												
ID	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	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		6/6/2008		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
ID	Online	LOW LINE NO. 8 ARENA DROP	5056	Snake River	Boise Project Board of Control	Conventional	385.00	6/10/1981		10/23/1981		Apr-12
WA	Online	MAIN CANAL HEADWORKS	2849	Columbia Cascades	East, Quincy, & South, Columbia Basin I.D.'s	Conventional	26,000.00				11/16/1981	1987
ID	Online	Millie 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	Owhee ID et. al.	Conventional	1,880.00		2/26/1982		12/14/1984	1990
ID	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., Owhee I.D., & Ridgeview I.D	Conventional	4,340.00				5/9/1984	1985
OR	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 I.D.'s	Conventional	9,367.00				8/20/1982	1983
WA	Online	RUSSEL D SMITH PEC 22.7	2926	Columbia Cascades	East, Quincy, & South, Columbia Basin I.D.'s	Conventional	6,100.00				3/27/1980	1982
WA	Online	SUMMER FALLS	3295	Columbia Cascades	East, Quincy, & South, Columbia Basin I.D.'s	Conventional	92,000.00				8/14/1981	1983
WA	Online	TLETON DAM	3701	Columbia Cascades	Yakima-Tieton Irrigation District	Conventional	13,600.00				6/27/1991	2007
OR	Exemption	45-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		

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 Date
ID	Exemption	MAIN CANAL NO. 10	5041	Snake River	East, Quincy, & South, Columbia Basin I.D.'s	Conventional	500.00			10/23/1981		
ID	Exemption	MAIN CANAL NO. 6	5038	Snake River	East, Quincy, & South, Columbia Basin I.D.'s	Conventional	1,055.00			10/23/1981		
OR	Exemption	Monroe Drop	14430	Columbia Cascades	Apple, Inc.	Conventional	300.00	7/2/2012	3/28/2013	2/18/2015		
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			
ID	Preliminary	Mason Dam Hydro	12686	Snake River	Baker County	Conventional	3,400.00	4/25/2006	5/26/2010			
WA	Preliminary	Mckay Dam	14546	Columbia Cascades	Houtama Hydropower, LLC	Conventional	2,300.00	8/13/2013	2/6/2014			
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	Scoteneey Inlet Drop	14318	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,700.00	5/31/2011	3/26/2013			
OR	Preliminary	Unity Dam by Warm Springs Hydro	14576	Snake River	Warm Springs Hydro, LLC	Conventional	800.00	1/13/2014	6/16/2014			
ID	Preliminary	Warm Springs Dam	13570	Snake River	Ted Sorenson	Conventional	2,700.00	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			
LEASE OF POWER PRIVILEGE PROJECTS												
ID	Request for Development	Cat Creek Energy Pump Storage Facility		Snake River	Cat Creek Energy, LLC	Pump Storage	400,000.00	11/5/2014				
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 Date
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
NM	Online	Elephant Butte		Albuquerque	USBR	Conventional	27,945.00					1940
UT	Online	Flaming 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	5,589.00					1962
CO	Online	Morrow Point		Western Colorado	USBR	Conventional	173,334.00					1971
CO	Online	Upper Molina		Western Colorado	USBR	Conventional	9,936.00					1962
RECLAMATION OWNED AND OPERATED BY OTHERS												
UT	Online	Causey 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	Olmsted 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	Towaoc Powerplant		Western Colorado	Dolores Water Conservancy District	Conventional	11,495.00					1994
UT	Online	Upper Spanish Fork		Provo	Strawberry Water User's Association	Conventional	3,900.00					1909
UT	Online	Wanship Powerplant		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	1987
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
UT	Online	Pineview Dam	4597	Provo	Weber-Box Elder Conservancy District	Conventional	1,800.00				3/16/1984	1991
CO	Online	Vallecito Dam	3174	Western Colorado	Plarrnigan 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 OF 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	Mancos Water Conservancy Dist.	Conventional	260.00				1995	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	Lemon Dam		Western Colorado	Florida Water Conservancy District	Conventional	120.00				1988	9/1/1988
CO	Online	South Canal (Drop 1)		Western Colorado	Uncompahgre 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	Uncompahgre Valley Water Users and the Delta-Montrose Electric Association	Conventional	3,500.00	8/26/2009			3/16/2012	8/1/2013
CO	Online	Ridgway Dam		Western Colorado	Tri-County Water Conservancy District	Conventional	7,000.00	6/2/2010			2/6/2012	4/3/2014

CO	Online	Shavano Falls		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	2,800.00	8/21/2013	1/27/2014		6/18/2014	6/24/2015
CO	Online	South Canal (Drop 4)		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	4,800.00	8/21/2013	5/14/2014		9/8/2014	6/24/2015
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	South Canal (Drop 5)		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	2,400.00	3/3/2015	6/18/2015			
NM	Posted Solicitation	San Juan Chama Project	LP12-1-000	Albuquerque	Albuquerque Bernalillo County Water Utility Authority	Conventional	100.00	7/6/2012				

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 Date
CO	Request for Development	Rifle Gap Dam		Western Colorado		Conventional	341.00	4/1/2013				
UT	Request for Development	Diamond Fork		Central Utah Project Completion Act Office	Central Utah Water Conservancy District	Conventional	12,214.00	Nov-14				

PILOT PROJECTS

CO	Contract	South Canal (Drop 2)		Western Colorado	Percheron Power, LLC, Uncompahgre Valley Water Users Association	Hydrodynamic Screw	987.00	5/27/2014	7/29/2014	9/17/2014	12/17/2014	
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