

RECLAMATION

Managing Water in the West

Bureau of Reclamation Renewable Energy Update

Fiscal Year 2015, 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 Daniel Vallejo, Rick Clayton, Robert Ross, Jeffrey Ticknor, and James Stauffer were instrumental in developing this document.

Renewable Activities

Federal Memorandum of Understanding (MOU) for Hydropower

On March 24, 2010, the Department of the Interior, the Department of Energy (DOE), and the Department of the Army (DA) signed the MOU for Sustainable 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.” The MOU has been implemented by the DA through the U.S. Army Corps of Engineers, DOE through the Office of Energy Efficiency and Renewable Energy, and the Department through Reclamation (collectively, the “Agencies”).

Over the past 5 years, through collaboration and partnerships with other federal agencies, the hydropower industry, the research community, and numerous stakeholders, the Agencies have successfully fulfilled the commitments and promise of the 2010 MOU.

On March 24, 2015, Deputy Secretary of the Interior Michael Connor, Deputy Secretary of Energy Elizabeth Sherwood-Randall, and Assistant Secretary of the Army for Civil Works Jo-Ellen Darcy signed the MOU renewal agreement, extending the MOU for an additional five years.

The signed agreement renews the agencies’ commitment with a second phase of collaboration, outlined in a Phase II Action Plan. The Phase II Action Plan priorities include: (1) technology development; (2) asset management; (3) hydropower sustainability; (4) quantifying hydropower capabilities and value

in power systems; and (5) information sharing, coordination, and strategic planning.

For additional information, see the [Department news release](#). The 2010 MOU, a Two-year Progress Report, the signed extension, and Phase II Action Plan are all available on the [Reclamation power Web site](#).



Signing ceremony agency designees, from left to right: Department of Energy Under Secretary for Science and Energy Dr. Franklin Orr, Deputy Secretary of the Interior Michael Connor, and Assistant Secretary of the Army for Civil Works Jo-Ellen Darcy.

Reclamation Renewable Energy Summary

Online Renewable Energy Projects

Hydropower				
Reclamation Owned and Operated	53	Plants	14,725	MW ¹
Reclamation Owned and Operated by Others ²	23	Plants	790	MW
Other Plants on Reclamation Facilities	7	Plants	85	MW
FERC Plants on Reclamation Facilities ³	50	Plants	460	MW
LOPP Plants ⁴	9	Plants	35	MW
Total	142	Plants	16,095	MW

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 facilities, licensed by the Federal Energy Regulatory Commission (FERC).

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

Other Renewables

Solar

Alamosa (UC, New Mexico)	10	kW ⁵
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	5	Plants
Turbine Refurbishments/Replacements ⁷	3	Plants
Optimization	0	Plants
Total	8	Plants

FERC Licenses on Reclamation Facilities

FERC Licenses	3	Plants	23	MW
FERC Exemptions	6	Plants	8	MW
FERC Preliminary Permits (Conventional)	17	Plants	46	MW
FERC Preliminary Permits (Pumped-storage)	11	Plants	8,827	MW
Total	37	Plants	8,904	MW

Lease of Power Privilege

LOPP Contracts	4	Plants	10	MW
LOPP Preliminary Leases	3	Plants	24	MW
LOPP Posted Public Solicitations	1	Plant	0.1	MW
LOPP Requests for Development	11	Plants	23	MW
Total	19	Plants	58	MW

Other Renewables

Wind

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

Solar

First Solar (LC, Nevada)	50	MW
San Luis Facility (MP, California) ⁸	9-25	MW
River Mountains (LC, Nevada)	14	MW
Blythe Office (LC, California)	.02	MW
Total	73-89	MW

⁵ Kilowatt (kW).

⁶ A major generator overhaul is in progress at Folsom (G3), Glen Canyon (G6), San Luis (G1), Spring Creek (G2), and Yellowtail (G3).

⁷ Turbine refurbishment/replacement projects are in progress at Glen Canyon (G2), Palisades (G3), and Trinity (G1).

⁸ Capacity is dependent upon the amount of land available to be leased.

Pilot Projects

Hydrokinetic Installation on Roza Canal (Instream Energy)	10	kW
Low-head Technology Installation on Monroe Drop ⁹	300	kW
Low-head Technology Installation on North Unit Irrigation Canal, Mile 45 ¹⁰	5,000	kW
Hydrodynamic Screw Technology Installation on South Canal, Drop 2 ¹¹	987	kW
Total	6,297	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. For additional information see the [WaterSMART Web site](#).

On June 6, 2014, Reclamation awarded (in total) \$17.8 million in water and energy efficiency grants to 36 projects. In aggregate, the 36 projects are expected to conserve more than 67,000 acre-feet of water and 22.9 million kilowatt-hours (kWh) of electricity, annually.

WaterSMART Updates

The fiscal year (FY) 2015 WaterSMART Water and Energy Efficiency Grant Funding Opportunity Announcement was posted on October 30, 2014. The application deadline was January 23, 2015. Successful projects are expected to be announced in June 2015 and grants are expected to be awarded in September 2015. All active, FY 2011-2014 WaterSMART Grant projects that have a renewable energy component are listed below. Full project summaries are available on the [WaterSMART Web site](#).

WaterSMART		
FY	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)

⁹ The low-head technology installation on Monroe Drop has received a FERC Preliminary Permit and is included in the FERC Preliminary Permits (Conventional) statistic.

¹⁰ 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.

¹¹ The hydrodynamic screw technology installation on South Canal, Drop 2 has received a LOPP Contract and is included in the LOPP Contracts statistic.

2012	Consolidated Irrigation Company	In development
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	In development, LOPP Contract
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 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

In-Progress Renewable Energy Projects

Reclamation Hydropower				
Generator Rewinds/Uprates ¹²	1	Plant		
Turbine Refurbishments/Replacements	0	Plants		
Optimization	0	Plants		
Total	1	Plant		

FERC Licenses on Reclamation Facilities				
FERC Licenses	1	Plant	15	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	8	Plants	2,152	MW

Lease of Power Privilege				
LOPP Contracts	1	Plants	1	MW
LOPP Preliminary Leases	2	Plants	16	MW
LOPP Posted Public Solicitations	0	Plants	0	MW
LOPP Requests for Development	4	Plants	7	MW
Total	7	Plants	24	MW

¹² A generator rewind is in progress at Yellowtail (G3).

Great Plains Project Updates

FERC Projects

Project: Clark Canyon Dam

Developer: Clark Canyon Hydro, LLC

Status: Terminated

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. Within the order, FERC notes, “Clark Canyon could file a new license application which the Commission could address on an expedited basis if Clark Canyon obtains concurrence from affected federal and state agencies and other interested stakeholders and makes a filing that includes all necessary information.”

Reclamation’s MOU and funding arrangement with Clark Canyon Hydro, LLC, is still in place, should the developer pursue a new license.

Lease of Power Privilege Projects

Project: Granby Dam

Developer: Northern Water Conservancy District

Status: LOPP Contract

The environmental assessment was signed on March 13, 2015. The LOPP contract was executed on March 31, 2015. A pre-construction kick-off meeting and site visit were held on March 26 and April 8, respectively. The meeting and visit were attended by the District, Reclamation, the United States Forest Service, and the District’s construction contractor.

Project: Pueblo Dam

Developer: Southeastern Colorado Water Conservancy District, Colorado Springs Utilities, and Board of Water Works of Pueblo, Colorado

Status: Preliminary Lease

The District’s six-month preliminary lease extension was approved by Reclamation, extending the preliminary lease expiry date to August 27, 2015.

Project: Yellowtail Afterbay

Developer: Crow Tribe

Status: Preliminary Lease

The “Initial Yellowtail Afterbay Hydropower Agreement” was signed March 26, 2015. The Agreement establishes a relational framework between Reclamation and the Crow Tribe to develop hydropower on the Yellowtail Afterbay Dam. A key component of the Agreement, Reclamation will provide limited, non-reimbursable funding to cover Reclamation costs incurred at the onset of the project.

The Tribe is responsible for overall management of the hydropower project and for coordination of activities associated with the project. Reclamation will provide technical assistance in reviewing designs and ensure the new hydro coexists with the existing Yellowtail Afterbay Dam in a safe and reliable manner.

The next steps include completion of design data collection, followed by design and implementation of Reclamation's dam safety processes for the proposed modifications to the existing structure. For additional information see the [Reclamation news release](#).

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

On March 10, 2015, Reclamation transmitted the preliminary lease to the District for signature.

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	0	Plants	
Optimization	0	Plants	
Total	0	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)	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			
First Solar (LC, Nevada)			50 MW
River Mountains (LC, Nevada)			14 MW
Blythe Office (LC, California)			.02 MW
Total			64 MW

Lower Colorado Project 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. At this time, a preliminary draft environmental assessment is out for review.

Project: Blythe Office Solar Installation
Developer: Reclamation
Status: In Development

Plans are underway to install a 19 kW solar array at Reclamation’s Blythe Office. The project is scheduled to come online in FY 2016 and generate approximately 35,000 kWh annually. Project generation may completely offset Blythe Office load.

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 ¹³	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

In-Progress Renewable Energy Projects

Reclamation Hydropower				
Generator Rewinds/Uprates ¹⁴	3	Plants		
Turbine Refurbishments/Replacements ¹⁵	1	Plant		
Optimization	0	Plants		
Total	4	Plant		

FERC Licenses on Reclamation Facilities				
FERC Licenses	2	Plants	8	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	3	Plants	1,258	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	.4	MW
Total	2	Plants	.4	MW

¹³ Power from two of the three plants is marketed by Western: O’Neill and San Luis.

¹⁴ Major generator overhauls are in progress at San Luis (G1), Folsom (G3), and Spring Creek (G2).

¹⁵ A turbine refurbishment/replacement project is in progress at Trinity (G1).

Other Renewables		
Solar		
San Luis Facility (MP, California) ¹⁶	9-25	MW
Total	9-25	MW

Mid-Pacific Project Updates

Solar Projects

Project: San Luis Facility

Developer: San Luis Renewables, LLC

Status: In Development

National Environmental Policy Act review is ongoing. An administrative draft has been circulated for comments.

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
Turbine Refurbishments/Replacements ¹⁷	1	Plant
Optimization	0	Plants
Total	1	Plant

¹⁶ Capacity is dependent upon the amount of land available to be leased.

¹⁷ A turbine refurbishment/replacement project is in progress at Palisades (G3).

FERC Licenses on Reclamation Facilities

FERC Licenses	0	Plants	0	MW
FERC Exemptions	5	Plants	7	MW
FERC Preliminary Permits (Conventional)	14	Plants	42	MW
FERC Preliminary Permits (Pumped-storage)	1	Plant	1,000	MW
Total	20	Plants	1,049	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

Pilot Projects

Hydrokinetic Installation on Roza Canal (Instream Energy)	10	kW
Low-head Technology Installation on Monroe Drop ¹⁸	300	kW
Low-head Technology Installation on North Unit Irrigation Canal, Mile 45 ¹⁹	5,000	kW
Total	5,310	kW

Pacific Northwest Project Updates

No updates available for this quarter.

Upper Colorado Renewable Energy Summary

Online Renewable Energy Projects

Hydropower

Reclamation Owned and Operated	9	Plants	1,816	MW
Reclamation Owned and Operated by Others ²⁰	10	Plants	41	MW
Other Plants on Reclamation Facilities	0	Plants	0	MW
FERC Plants on Reclamation Facilities	5	Plants	50	MW
LOPP Plants ²¹	7	Plants	31	MW
Total	31	Plants	1,938	MW

¹⁸ The low-head technology installation on Monroe Drop has received a FERC Preliminary Permit and is included in the FERC Preliminary Permits (Conventional) statistic.

¹⁹ 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.

²⁰ Power from three of the 10 plants is marketed by Western: Deer Creek, Towaoc, and McPhee.

²¹ Reclamation holds title to the Grand Valley Powerplant LOPP.

Other Renewables

Solar

Alamosa (UC, New Mexico)	10	kW
Total	10	kW

In-Progress Renewable Energy Projects

Reclamation Hydropower

Generator Rewinds/Uprates ²²	1	Plant
Turbine Refurbishments/Replacements ²³	1	Plant
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	3	Plants	9	MW
LOPP Preliminary Leases	1	Plant	8	MW
LOPP Posted Public Solicitations	1	Plant	0.1	MW
LOPP Requests for Development	3	Plants	13	MW
Total	8	Plants	30	MW

Pilot Projects

Hydrodynamic Screw Technology Installation on South Canal, Drop 2 ²⁴	987	kW
Total	987	kW

Upper Colorado Project Updates

Lease of Power Privilege Projects

Project: San Juan Chama Project

Developer: Albuquerque Bernalillo County Water Utility Authority (ABCWUA)

Status: Posted Solicitation

ABCWUA has developed a conceptual design predicated upon a transmission interconnection with the local electric utility, Northern Rio Arriba Electric Cooperative (NORA). However, NORA is currently transferring these

²² A generator rewind is in progress at Glen Canyon (G6).

²³ A turbine refurbishments/replacements project is in progress at Glen Canyon (G2).

²⁴ The hydrodynamic screw technology installation on South Canal, Drop 2 has received a LOPP Contract and is included in the LOPP Contracts statistic.

transmission assets to the Jicarilla Apache Nation Utility Authority (JANUA). ABCWUA has requested a four-year project delay to allow the utility transfer to occur.

Once the transfer is complete, ABCWUA intends to finalize a transmission interconnection agreement with JANUA. At that time, ABCWUA will provide Reclamation a project plan.

Project: Shavano Falls
Developer: Uncompahgre Valley Water Users Association
Status: LOPP Contract

Plant commissioning is anticipated by May 2015.

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

Plant commissioning is anticipated by June of 2015.

Project: South Canal (Drop 5)
Developer: Uncompahgre Valley Water Users Association
Status: Request for Development

On March 3, 2015 Reclamation received a formal request for development from the Uncompahgre Valley Water Users Association. Reclamation responded, requesting a project proposal.

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	1991
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	1986
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	5/3/2012
CA	Request for Development	A-C3 (Panicker Drop)		Lahontan Basin	Truckee Carson Irrigation District	Conventional	125.00	2014				

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		
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			
OR	Preliminary	Monroe Drop	14430	Columbia Cascades	Natel	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			
WA	Preliminary	Scooteney Outlet Drop	14317	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,300.00	5/31/2011	3/26/2013			
WA	Preliminary	Scooteney Wasteway	14352	Columbia Cascades	Grand Coulee Project Hydroelectric Authority	Conventional	1,110.00	7/28/2011	3/26/2013			
WA	Preliminary	Scooteney 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			
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	Gen 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
NM	Online	El Vado Dam	5226	Albuquerque	County of Los Alamos	Conventional	8,000.00					1/4/1982
CO	Online	Navajo Dam	4720	Western Colorado	City of Farmington	Conventional	30,000.00					10/15/1985
UT	Online	Pineview Dam	4597	Provo	Weber-Box Elder Conservancy District	Conventional	1,800.00					3/16/1984
CO	Online	Vallecito Dam	3174	Western Colorado	Parrnigan Resources & Energy, Inc.	Conventional	5,880.00					10/5/1983
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
CO	Online	Jackson Gulch Dam		Western Colorado	Mancos Water Conservancy Dist.	Conventional	260.00					1995
UT	Online	Jordanelle Dam		Provo	Central Utah Water Conservancy Dist., Heber Light and Power	Conventional	13,000.00	7/2/1999				2008
CO	Online	Lemon Dam		Western Colorado	Florida Water Conservancy District	Conventional	120.00					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
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
CO	Online	Ridgway Dam		Western Colorado	Tri-County Water Conservancy District	Conventional	7,000.00	6/2/2010				2/6/2012
CO	Contract	Shavano Falls		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	2,800.00	8/21/2013				6/18/2014
CO	Contract	South Canal (Drop 4)		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	4,800.00	8/21/2013				9/8/2014
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
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				
CO	Request for Development	South Canal (Drop 5)		Western Colorado	Uncompahgre Valley Water Users Association	Conventional	291.00	3/3/2015				
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	