

## **Hydropower in OR/WA January 2015**

Hydropower uses the energy of flowing water to produce electricity. It is a valuable renewable energy source because it minimizes air pollution and provides a consistent power source to help meet minimum energy demands, also known as base load. However, it does have some downsides. It disrupts the fluvial ecosystem. It is vulnerable to reductions in electrical generation in low water seasons or drought years, and has high initial capital costs. Most hydropower in the United States is produced through dams or impoundments used to store and divert water into turbines to produce electricity. In 2013, hydropower, nationwide, accounted for 7% of U.S. power production, and was the largest contributor to renewable electric power generation followed by wind, wood, and wood-derived fuels. The top hydropower-producing states are Washington, Oregon, and California with Washington's Grand Coulee Dam on the Columbia River being the largest hydroelectric power producer in the United States.

Ownership of hydropower generation facilities is classified as "federal" or "nonfederal". The majority of federal projects are owned and managed by the U.S. Bureau of Reclamation or the U.S. Army Corp of Engineers and are principally large multi-purpose dams capable of producing more than 30 megawatts (MW) of electricity. Nonfederal projects can be privately owned, or publically owned, and located on public or private land. Nonfederal projects are licensed and administered by the Federal Energy Regulatory Commission (FERC) and are principally categorized as small hydropower (1-30 MW). All hydropower projects on BLM-managed land (and lands managed by some other federal land management agencies such as the U.S. Forest Service) are considered "nonfederal" projects and consequently are regulated by FERC<sup>1,2</sup>.

### **What is the Federal Energy Regulatory Commission?**

The FERC is an independent agency created by Congress in 1977. It has exclusive authority to regulate licenses on non-federal hydroelectric projects authorized under the Federal Water Power Acts<sup>3</sup> that affect navigable waters; occupy public lands or reservations of the U. S.; use surplus water or waterpower at a U.S. government dam; or affect the interests of interstate commerce. The FERC regulates this industry by issuing preliminary permits, project licenses, and exemptions from licensing<sup>4</sup>; ensuring dam safety; performing project compliance activities;

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<sup>1</sup> For more information see: Bracmort K., Stern C., Vann A. (2012) Hydropower: Federal and Nonfederal Investment. Congressional Research Service, 7-5700. And Hall, Douglas; Reeves, Kelly(2006) A study of United States hydroelectric plant ownership. Idaho National Library, INL/EXT-06-11519.

<sup>2</sup> U. S. Department of Energy- Hydropower Program: Types of Hydropower Plants. [http://www1.eere.energy.gov/water/hydro\\_plant\\_types.html](http://www1.eere.energy.gov/water/hydro_plant_types.html); U.S.G.S. Hydroelectric Power <http://ga.water.usgs.gov/edu/hyhowworks.html>

<sup>3</sup>Federal Water Power Act of 1920; Public Utilities Act of 1935: Title I: The Public Utility Holding Company Act of 1935 and Title II- The Federal Power Act; Energy Policy Act of 1992; Energy Policy Act of 2005; and 16 U.S.C. 817

<sup>4</sup> For more information regarding the licensing process, please visit <http://www.ferc.gov/industries/hydropower.asp>

investigating and assessing payments for headwater benefits; and coordinating with other agencies.

In deciding whether to issue a license, the FERC gives consideration to a full range of licensing purposes related to the potential value of a stream or river for uses such as hydroelectric development, energy conservation, fish and wildlife resources, visual resources, cultural resources, recreational opportunities, irrigation, flood control, and water supply. Licenses are authorized for up to 50 years for construction, operating, and maintaining non-federal hydropower projects. Exemptions are granted in perpetuity<sup>5</sup>. After a license is issued, the FERC monitors the licensee's compliance with the license conditions and stipulations throughout the term of the license. In addition to the powers and responsibilities that the Federal Power Act grants to the FERC, several other laws and executive orders affect the licensing process<sup>6</sup>. Upon expiration the project can be closed (decommissioned), otherwise the FERC can issue a new license (relicense) to either the existing licensee or a new licensee.

### **What is the Bureau of Land Management's role in the hydroelectric power licensing process?**

Once the FERC receives an application, the Bureau of Land Management (BLM) updates public land records by noting a withdrawal of public lands, if any; processes and authorizes rights of way agreements; and offers the FERC pre-filing consultation including area determination; standards and guidelines identification; and an assessment as to whether the plans information is consistent with its conclusions.

Federal resource agencies, including the BLM, may also submit to the applicant and the FERC:

- a) Mandatory Conditions, FPA§4(e): The federal agency responsible for managing reservations can establish mandatory terms and conditions to protect the reservation.
- b) Terms and Conditions, FPA§30(c): these conditions prevent loss of and damage to fish and wildlife and provide for the development and improvement of fish and wildlife in the project area; this can include fish passage requirements.

Resource agencies must also negotiate with stakeholders, who submitted alternatives, to settle on modifications of the agencies preliminary conditions and prescriptions.

### **How many non-federal hydroelectric projects are located on Bureau of Land Management lands in Oregon and Washington?**

In the **State of Oregon**, as of January 2015, there were 34 active "non-federal" hydroelectric projects located on federal lands, or that include a federal interest. Of those 34 projects, 17 (50%) are operating under current licenses or in the relicensing process; 4 (12%) are exempt from

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<sup>5</sup> Some projects are granted an exemption from licensing. Two types of exemptions could be granted: small hydropower and conduits.. For additional information about exemptions, see <http://www.ferc.gov/industries/hydropower/gen-info/licensing/small-low-impact/get-started/exemp-licens.asp>

<sup>6</sup> Such as: Clean Air Act, Clean Water Act, Coastal Zone Management Act, Endangered Species Act, Fish and Wildlife Coordination Act, National Environmental Policy Act, National Historic Preservation Act, Rivers and Harbors Act, Wild and Scenic Rivers Act

licensing; 5 (15%) have pending license applications; 5 (15%) have current preliminary permits; and 3 (9%) have pending preliminary permit applications with the FERC. In FY 2014, the BLM performed an administrative action on the following project located partially on BLM administered lands:

Warm Springs Dam, P-13570 (OROR67118): The BLM will be an Intervener in the FERC NEPA process. Staff from the Burs and Vale Districts reviewed and provided comments on the FERC preliminary scoping document. The District will continue to provide input into the FERC licensing process as opportunities arise with the intent to use the NEPA, if adequate, to issue a decision.

In the **State of Washington**, as of January 2015, there were 53 active “non-federal” hydroelectric projects either located on federal lands or that had a federal interest. Of those, 40 (75%) are operating under a current license or are going through the FERC relicensing process. One project is exempt from licensing; another project, “Sullivan Lake”, has surrendered its operating license. There are no pending re-license applications, although one project, “Packwood Lake”, receives an automatic relicense from FERC annually. The remaining 10 projects (19%), all with a federal interest, have current preliminary permits with the FERC. There are no pending preliminary permit applications with the FERC. In FY 2014, the BLM performed some administrative action on the following six projects located on BLM administered lands:

Boundary Dam Project, P-2144 (WAOR-19832):

BLM archaeologist participated as member of the Boundary Dam Cultural Resources Work Group to oversee Seattle City Light’s compliance with the Historic Properties Management Plan for the Project. BLM reviewed cultural resources monitoring reports for historic properties and shoreline erosion monitoring.

BLM Outdoor Recreation Planner (ORP) participated as member of the Boundary Dam Recreation Resources Work Group. BLM reviewed the draft Seattle City Light’s road maintenance plan. In addition, BLM reviewed proposals for recreational site developments in the Project area, including three sites on BLM lands, and review of proposed Guard Station Redevelopment project, and habitat re-enhancement project. BLM worked with Seattle City Light in developing options for installing compostable toilet facilities at two BLM recreation sites.

Enloe Dam Project P-12569 (WAOR-61149):

BLM archaeologist participated as member of the Enloe Dam Cultural Resources Work Group to review and oversee Okanogan County PUD’s compliance with the Historic Properties Management Plan for the Project. BLM reviewed proposed road and recreational development cultural resource reports and evaluations for properties on BLM lands. BLM Wenatchee Field Manager, Realty Specialist, and District Archaeologist attended a public meeting hosted by the Okanogan County PUD in Oroville regarding the National Register eligibility of the Oroville to Tonasket Irrigation District canal. The BLM is reviewing an outreach/ solicitation notice for ownership and management of the historic Enloe Dam Powerhouse located on BLM land in the Project area.

Lake Chelan Project P-637 (WAOR-19697):

BLM archaeologist participated as member of the Lake Chelan/Rocky Reach Cultural Resources Work Group (CRWG) to oversee Chelan County Public Utilities District's (PUD's) compliance with the Historic Properties Management Plan for the Projects. Cultural sites within the project area were monitored by the PUD's contractor and the work was reviewed by the CRWG. A proposed dust abatement project, park development, Lake Chelan interpretive booklet *Deep Waters*, and Traditional Cultural Property Management Plan were reviewed by the CRWG. The CRWG made recommendations regarding evaluation and treatment of sites within the Project area.

*Rocky Reach Project P-2145 (WAOR-19793):*

BLM archaeologist participated as member of the Lake Chelan/Rocky Reach Cultural Resources Work Group (CRWG) to oversee Chelan County PUD's compliance with the Historic Properties Management Plan (HPMP) for the Projects. The HPMP for Rocky Reach was revised and reviewed by the CRWG. The Final Draft was completed in June 2014. Cultural sites in the project area were monitored by the PUD's contractor and the work was reviewed by the CRWG. The CRWG reviewed proposed boat launch, recreation site development, and educational components of the Wenatchee River Salmon Festival and Intertribal Longhouse exhibit. A proposed change in pool elevation was reviewed by the signatory settlement parties but was not approved.

*Priest Rapids Project P-2114 (WAOR-20353):*

BLM archaeologist participated as member of the Priest Rapids Cultural Resources Work Group (CRWG) to oversee Grant County Public Utilities District's (PUD's) compliance with the Historic Properties Management Plan for the Project. The Project includes both Priest Rapids Dam and Wanapum Dam. Cultural resource survey and evaluation of historic properties were authorized and the resulting draft reports were reviewed by the CRWG.

*Wanapum Dam Emergency Drawdown* (located within the Priest Rapids Project P-2114):

An emergency drawdown of the pool was conducted in the spring of 2014 in response to a crack discovered in one of the Wanapum Dam spillways. BLM participated in the emergency response as part of the Cultural Resources Work Group (CRWG) for the Priest Rapids Hydroelectric Project. The CRWG assisted the Grant PUD with establishing priorities for development of the Emergency Response Plan and addressing the following elements: coordinating response to media inquiries, controlling public access to the shorelines, identifying safety and security concerns, developing plans for recovery/ protection of exposed burials, identifying previously unidentified sites, monitoring sites inundated since dam construction, and identification of land status within the project area. The drawdown and associated inventory and documentation are continuing into FY2015. BLM issued permits and work authorizations for cultural resource inventory on BLM lands, reviewed reports, monitoring activities associated with the drawdown, and provided professional advice and guidance on the emergency response efforts as part of the CRWG.

**WITHIN THE STATE OF OREGON  
JANUARY 2015**

**LICENSED NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Status</b>	<b>Expiration</b>	<b>Licensee</b>	<b>River</b>
308	Wallowa Falls	Relicensing	02/28/2016	PacifiCorp	Wallowa
477	Bull Run	Decommissioned	11/16/2004	Portland Gen Electric	Sandy
1927	North Umpqua	Licensed	10/31/2038	PacifiCorp	Umpqua
1971	Hells Canyon	Relicensing	07/31/2005	Idaho Power/ Confederated Tribes of Warm Springs	Snake
2030	Pelton-Round Butte	Licensed	05/31/2055	Portland Gen Electric	Deschutes
2082	Klamath	Relicensing	02/28/2006	PacifiCorp	Klamath
2195	Clackamas River	Licensed	11/30/2050	Portland Gen Electric	Clackamas
2242	Carmen-Smith Hydro	Relicensing	11/30/2008	City of Eugene, Or	McKenzie
2337	Prospect No 3	Licensed	12/31/2018	PacifiCorp	Rogue
2821	Portland No 1 & 2	Licensed	02/28/2029	City of Portland	Bull Run
4354	Owyhee Dam	Licensed	04/30/2034	Gem Irr Dist, et al	Owyhee
4359	Owyhee Tunnel No 1	Licensed	01/31/2036	Gem Irr Dist, et al	Owyhee
5264	Stone Creek	Licensed	08/31/2039	Eugene Water & Elec	Shellrock
5357	Mitchel Butte Lateral	Licensed	11/30/2034	Owyhee Irr Dist, et al	Owyhee
5891	Opal Springs	Licensed	10/31/2032	Deschutes Valley WD	Crooked
7161	Galesville	Licensed	05/31/2034	Douglas County	Cow Crk
8810	South Bend Trans Line	Licensed	08/31/2037	PacifiCorp	N/A
11910	Applegate Dam	Terminated		AG Hydro LLC	Applegate
11945	Dorena Lake Dam	Licensed	09/30/2058	Dorena Hydro LLC	Row
12713	Reedsport	Surrendered		Reedsport OPT Wave Park, LLC	Pacific

**EXEMPT FROM LICENSING NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Status</b>	<b>Expiration</b>	<b>Operator</b>	<b>River</b>
6414	Canyon Creek	Exempt	in perpetuity	Douglas Water Pwr Co.	Canyon
6661	Falls Creek	Exempt	in perpetuity	Frontier Technology Inc.	Falls Crk
6648	Lacomb Irrigation Canal	Exempt	in perpetuity	Lacomb Irrigation Dist.	Lacomb
14430	Monroe Drop Hydro	Exempt	in perpetuity	Monroe Hydro LLC	North Unit Irr. District.

## OREGON CONT.

### PENDING LICENSE APPLICATIONS NON-FEDERAL FERC HYDRO PROJECTS ON FEDERAL LANDS OR INTERESTS

<b>FERC No.</b>	<b>Project Name</b>	<b>Status</b>	<b>Proponent</b>	<b>River</b>
12686	Mason Dam	Apln Rcd-FERC pending	Baker County	Powder
12726	Rock Creek	Apln Rcd -FERC pending	Eastern OR L&P, LLC	Rock Cr
12965	Wickiup Dam	Apln Rcd -FERC pending	Wickiup Hydro Grp	Deschutes
13570	Warm Springs Dam	Apln Rcd-FERC pending	Warm Springs Irr Dist	Malheur
14383	Whitewater Hydro	Apln Rcd-FERC pending	Whitewater Green Energy, LLC	Whitewater

### ISSUED PRELIMINARY PERMITS NON-FEDERAL FERC HYDRO PROJECTS ON FEDERAL LANDS OR INTERESTS

<b>FERC No.</b>	<b>Project Name</b>	<b>Issued</b>	<b>Expires</b>	<b>Proponent</b>	<b>River</b>
13318	Swan Lk Pumped Storage	11/16/2012	10/31/2015	Swan lake North Hydro	Swan Lk
14381	Blue River Dam	07/11//2012	06/30/2015	Rye Development LLC	Blue
14416	Lorella Pumped Storage	12/01/2012	11/30/2015	Rye Development LLC	Irr canal
14453	Prineville Pumped Storage	07/01/2013	06/30/2016	Prineville Energy Storage	Crooked
14546	McKay Dam	02/06/2014	01/31/2017	Houtama Hydropower	McKay
14626	Two Girls Creek	01/07/2015	12/31/2017	Greenvolt Hydro, LLC	Two Girls

### PENDING PRELIMINARY PERMITS NON-FEDERAL FERC HYDRO PROJECTS ON FEDERAL LANDS OR INTERESTS

<b>FERC No.</b>	<b>Project Name</b>	<b>Filed with FERC</b>	<b>Proponent</b>	<b>River</b>
14647	Applegate Hydro	11/18/2014	OHP Energy, LLC	Applegate
14656	Crooked River Hydro	12/18/2014	Portland Gen Electric	Crooked

**WITHIN THE STATE OF WASHINGTON  
JANUARY 2015**

**LICENSED NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Status</b>	<b>Expiration</b>	<b>Licensee</b>	<b>River</b>
460	Cushman	Licensed	06/30/2038	City of Tacoma, WA	Hood Canal
553	Skagit River	Licensed	04/30/2025	City of Seattle, WA	Skagit
637	Lake Chelan	Licensed	10/31/2056	Chelan PUD No. 1	Chelan
719	Trinity	Licensed	04/30/2044	Trinity Conservancy, Inc	Phelps
935	Merwin	Licensed	05/31/2058	PacifiCorp	Lewis
943	Rock Island	Licensed	12/31/2028	Chelan PUD No. 1	Columbia
1862	Nisqually River	Licensed	02/28/2037	City of Tacoma, WA	Nisqually
2016	Cowlitz River	Licensed	03/31/2037	City of Tacoma, WA	Cowlitz
2042	Box Canyon	Licensed	06/30/2055	Pend Oreille PUD	Pend Oreille
2071	Yale	Licensed	05/31/2058	PacifiCorp	Lewis
2103	Cedar Creek	Licensed	07/31/2052	Cominco American Inc.	Cedar
2111	Swift No. 1	Licensed	05/31/2058	PacifiCorp	Lewis
2114	Priest Rapids/Wanapam	Licensed	03/31/2052	Grant Cty PUD 2	Columbia
2144	Boundary	Licensed	02/28/2055	City of Seattle, WA	Pend Oreille
2145	Rocky Reach	Licensed	01/31/2052	Chelan PUD No. 1	Columbia
2149	Wells	Licensed	10/31/2052	Douglas Co PUD No. 1	Columbia
2150	Baker	Licensed	09/30/2058	Puget Sound PWR&LT	Baker
2157	Henry M Jackson(Sultan)	Licensed	08/31/2056	Snohomish PUD 1 et al	Sultan
2213	Swift No. 2	Licensed	05/31/2058	Cowlitz Cty PUD 1	Lewis
2225	Sullivan Lake (storage)	Surrendered	10/31/2008	Pend Oreille PUD 1	Sullivan
2244	Packwood Lake (Annual)	Relicensing	02/28/2010	WA Pub PWR Supp Sys	Lake Cr
2545	Spokane River	Licensed	05/31/2059	Avista Corporation	Spokane
2705	Newhalem Creek	Licensed	01/31/2027	City of Seattle, WA	Newhalem
2840	Potholes E. Canal Hdwrks	Licensed	09/30/2032	S. Columbia Basin ID	Columbia
2849	Main Canal Headworks	Licensed	10/31/2031	S. Columbia Basin ID	Columbia
2926	Russel D Smith PEC 22.7	Licensed	02/28/2030	S. Columbia Basin ID	Columbia
2937	Quincy Chute	Licensed	07/31/2032	Quincy Col. Basin ID	Columbia
3239	Koma Kulshan	Licensed	03/31/2037	Koma Kushan Assoc.	Sandy Cr
3295	Summer Falls	Licensed	07/31/2031	S. Columbia Basin ID	Columbia
3701	Tieton Dam	Licensed	05/31/2041	American Energy LLC	Tieton
3842	Eloptia Branch Canal	Licensed	12/31/2031	S. Columbia Basin ID	Columbia
3843	Potholes East Canal	Licensed	12/31/2031	S. Columbia Basin ID	Columbia
4885	Twin Falls	Licensed	04/30/2035	Twin Falls Hydro	Snoqualmie
6842	Wynoochee Dam	Licensed	08/31/2037	Cities of Aberdeen And Tacoma	Wynoochee
7076	Dalles Dam North Fishway	Licensed	11/30/2037	N. Wasco Cty PUD	Columbia
7337	Cowiche	Licensed	06/30/2034	Yakima-Tieton ID	Tieton
7338	Orchard Avenue	Licensed	06/30/2034	Yakima-Tieton ID	Tieton
10204	McNary Dam Fish Attraction	Licensed	08/31/2041	PUD No. 1	Columbia
10703	Yelm	Licensed	02/28/2037	City of Centrailia UT	Nisqually
10888	Koma Kulhson Trans Line	Licensed	03/31/2037	Koma Kulshon	N/A
12569	Enloe Dam	Licensed	06/30/2063	PUD 1 Okanogan	Similkameen

**WASHINGTON CONT.**

**EXEMPT FROM LICENSING NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Status</b>	<b>Expiration</b>	<b>Operator</b>	<b>River</b>
3783	Rocky Brook	Exempt	In Perpetuity	Rocky Brook Elec. Inc.	Rocky

**PENDING LICENSE APPLICATIONS NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Status</b>	<b>Proponent</b>	<b>River</b>
13333	JD Pool Pumped Stor.	Apln Rec-FERC pending	Klickitat Public Ut Dist.	Columbia, Umatilla Lake

**ISSUED PRELIMINARY PERMITS NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Issued</b>	<b>Expires</b>	<b>Proponent</b>	<b>River</b>
13885	Tacoma Wtr Suppy	5/20/2011	04/30/2014	Tacoma Wtr Supply	Green
14295	Sunset Falls	03/02/2012	02/28/2015	Snohomish Cty PUD	Skylomish
14316	PEC 1973 Drop Hydro	03/26/2013	02/29/2016	Grand Coulee Project	Potholes E
14317	Scooteney Outlet Drop	03/26/2013	02/29/2016	Grand Coulee Project	Potholes E
14318	Scooteney Inlet Drop	03/26/2013	02/29/2016	Grand Coulee Project	Potholes E
14329	Banks Lake Pump Storage	08/22/2013	07/31/2016	Grand Coulee Project	Banks Lak
14349	16.4 Wastewater	03/26/2013	02/29/2016	Grand Coulee Project	16.4 Wast
14351	464 Wastewater	03/26/2013	02/29/2016	Grand Coulee Project	Columbia
14352	PE Scooteney Wasteway	03/26/2013	02/29/2016	Grand Coulee Project	Columbia
14372	Rocky Coulee Hydro	07/11/2012	06/30/2015	Grand Coulee Project	Rocky Coulee Wasteway
14380	Pinto Dam	10/10/2012	09/30/2015	Grand Coulee Project	Crab Crk
14418	Cold Crk Valley Pump Storage	06/12/2013	05/31/2015	S. Martinez Livestock	Columbia

**PENDING PRELIMINARY PERMITS NON-FEDERAL FERC HYDRO PROJECTS  
ON FEDERAL LANDS OR INTERESTS**

<b>FERC No.</b>	<b>Project Name</b>	<b>Filed with FERC</b>	<b>Proponent</b>	<b>River</b>
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None Identified