

# Pumped storage: 5 misperceptions about licensing

Mike Swiger, John Clements and Hunter Cox from Van Ness Feldman provide perspectives on the factors affecting FERC jurisdiction over pumped storage hydroelectric projects and clear up some common misperceptions.

**F**ew new pumped storage hydroelectric projects have been licensed in the United States in recent years and only one small project has been built since 1995. That may change, however, due to a growing need to maintain operating reserves and grid reliability to match growth in variable renewable generation such as wind and solar. This in turn has led to resurgence in interest in new pumped storage development, so the time is ripe to clarify the jurisdiction of the Federal Energy Regulatory Commission (FERC or Commission) over such projects and to clear up some common misperceptions.

Since 2014, FERC has licensed three new pumped storage projects with a combined capacity of 2100MW.<sup>[1]</sup> Preliminary permits are in effect for new projects totaling over 12,000MW<sup>[2]</sup> and permit applications are pending for another 6000MW.<sup>[3]</sup> In 2016, the US Department of Energy (DOE) released its

Hydropower Vision report. DOE estimates that hydropower capacity in the U.S. could grow nearly 50,000MW by 2050, of which 36,000MW could come from pumped storage.<sup>[4]</sup>

Although the benefits of pumped storage to the electric grid are manifest, the challenge to development posed by the federal licensing scheme is daunting. The FERC pre-filing consultation and license application process for a new project takes several years and potentially much longer if any part of the project is located on federal lands. The cost of obtaining a license can run into the millions or tens of millions of dollars. Another challenge is navigating the duplicative and uncertain processes and outcomes of US Army Corps of Engineers (Corps) Clean Water Act (CWA) Section 404 dredge and fill permits for projects on navigable waters, and a Rivers and Harbors Act Section 14 facilities alteration permit if a project uses a Corps dam. If the project occupies any National

Forest or lands managed by the Department of the Interior, a permit is also required under the Federal Land Policy and Management Act. The desire to minimize environmental impacts in order to reduce costly regulatory processing and mitigation measures, including public recreation requirements, has led many developers to propose closed-loop pumped storage projects, which FERC defines as those not continuously connected to a naturally flowing water feature.<sup>[5]</sup> Indeed, a solid majority of active and applied for pumped storage permits are for closed-loop projects.

The broad issue of minimizing permitting issues implicates a narrower question which we have observed is the subject of persistent confusion: that is, why and when does a pumped storage project need a FERC license or is it even eligible for a FERC license? The answer requires consideration of three key facts: (1) What is the source of the initial fill



and makeup water – surface water, ground water, or another source? (2) Would any part of the project be on federal lands? (3) If the project would be at a Bureau of Reclamation (Bureau) dam, is the site reserved for federal development? If the conclusion of this inquiry is that a FERC license is not required, developers should ask nonetheless if there are good reasons to seek a FERC license voluntarily.

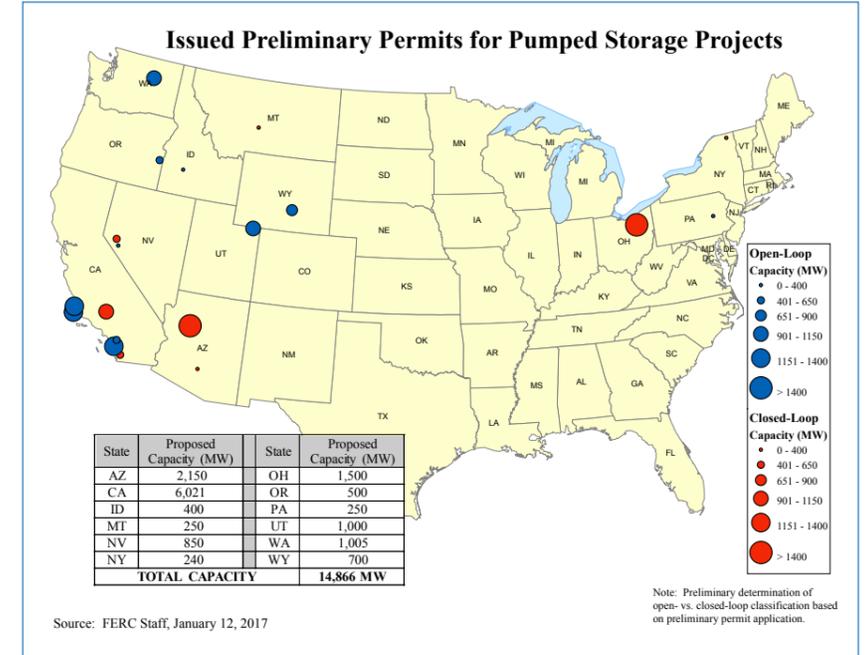
## FERC jurisdictional basics

A hydroelectric project is subject to FERC's mandatory licensing jurisdiction under Federal Power Act (FPA) Section 23(b)<sup>[6]</sup> if it is: (1) located on "navigable waters of the United States;"<sup>[7]</sup> (2) occupies federal lands; (3) uses surplus water or water power from a federal dam; or (4) is located on non-navigable waters and affects the interests of interstate or foreign commerce, including the sale of power into the interstate grid. However, FERC's authority to issue a license is broader than Section 23(b). Under FPA Section 4(e),<sup>[8]</sup> FERC is authorized to issue a license to a voluntary applicant for any project located "across, along, from or in" any stream or other water body subject to Congress' Commerce Clause authority, even if licensing is not required.

FERC licensing jurisdiction is limited to hydroelectric projects. In *Chemehuevi Tribe of Indians v. Federal Power Commission*,<sup>[9]</sup> a federal circuit court of appeals ruled that the "surplus water" clause of Section 4(e) is not limited to hydroelectric projects, so the Commission was required to determine if certain thermal-electric power plants that draw cooling water from navigable streams are jurisdictional because they use surplus water power from a government dam. The Supreme Court reversed, holding that the "surplus water" clause in Section 4(e) is, just as it is in Section 23(b), limited to hydroelectric projects.

## Groundwater – is it commerce clause water?

FERC precedent regarding jurisdiction over pumped storage projects that use groundwater as a sole source has evolved. In 1980, in *Public Service Co. of New Mexico*,<sup>[10]</sup> the project would have been located on private land and used dams to create the upper and lower reservoirs. The lower reservoir was to be on an unnamed intermittent stream (arroyo) and use only groundwater moved to the project by pipeline. FERC found that neither the groundwater nor the arroyo was a navigable water of the U.S. and that the arroyo did not affect interstate commerce. It further held that its Section 4(e) and Section 23(b) authority could not credibly be based on groundwater because the FPA's legislative history focused entirely on surface water bodies and nowhere implied Congressional intent to extend licensing to groundwater-only projects.<sup>[11]</sup>



Fifteen years later, in *Swanton Village*,<sup>[12]</sup> where a proposed project would use only groundwater from wells on private property, FERC reversed itself. Citing a 1982 US Supreme Court case holding that groundwater is an article of commerce (*Sporhase*),<sup>[13]</sup> FERC held that groundwater can be considered Commerce Clause water under the FPA.<sup>[14]</sup> Relying on the distinction between Section 23's mandatory jurisdiction over "streams" and Section 4(e)'s permissive jurisdiction over "streams or other bodies of water," FERC found that asserting licensing jurisdiction over groundwater was consistent with the "full authority under the Commerce Clause."<sup>[15]</sup>

Most recently, in *Eagle Crest Energy Co.*, FERC held that if a project occupies federal lands licensing is required by Section 23(b) without regard to the source of the water.<sup>[16]</sup> On rehearing, addressing arguments that the licensee lacked condemnation authority under FPA Section 21 because groundwater is not a "waterway," FERC responded that that term encompasses non-navigable Commerce Clause waters, including groundwater.<sup>[17]</sup> FERC dismissed the distinction made in *Swanton Village* between surface water and groundwater jurisdiction under Sections 23(b) and 4(e), respectively, as limiting in any way a licensee's Section 21 eminent domain authority by stating that *Swanton Village* implicitly accepted that groundwater is a "waterway" for FPA purposes.<sup>[18]</sup>

FERC's expansion of its Section 4(e) permissive licensing authority in *Swanton Village*, as well as its broad definition of "waterway" in *Eagle Crest Energy Co.*, to include groundwater could be questioned. The notion that Congress in enacting the FPA

intended to include groundwater either as a "body of water" or "waterway" subject to FERC's licensing jurisdiction seems a stretch. FERC's reliance on *Sporhase* for the notion that groundwater is Commerce Clause water appears to be misplaced. There, the Court struck down a state law which restricted the export of groundwater as an impermissibly discriminatory burden on interstate commerce. FERC's order overlooks the fact that in *Sporhase* the water itself was the article of commerce. At a pumped storage project, however, the article of interstate commerce is the electricity. Moreover, no downstream navigable waters could be impacted by using groundwater, so the presumption that federal supervisory power is needed to preserve water commerce is overcome. In short, in a closed-loop pumped storage project, the groundwater is not an article of commerce but simply a component of the electricity generation process.

FERC's assertion of jurisdiction over groundwater is also remarkable because even the extremely expansive re-definition of "waters of the United States" under the CWA recently issued by the U.S. Environmental Protection Agency and the Corps – a subject of vigorous court challenges – excludes groundwater.<sup>[19]</sup>

## Five misconceptions about FERC jurisdiction and licensing

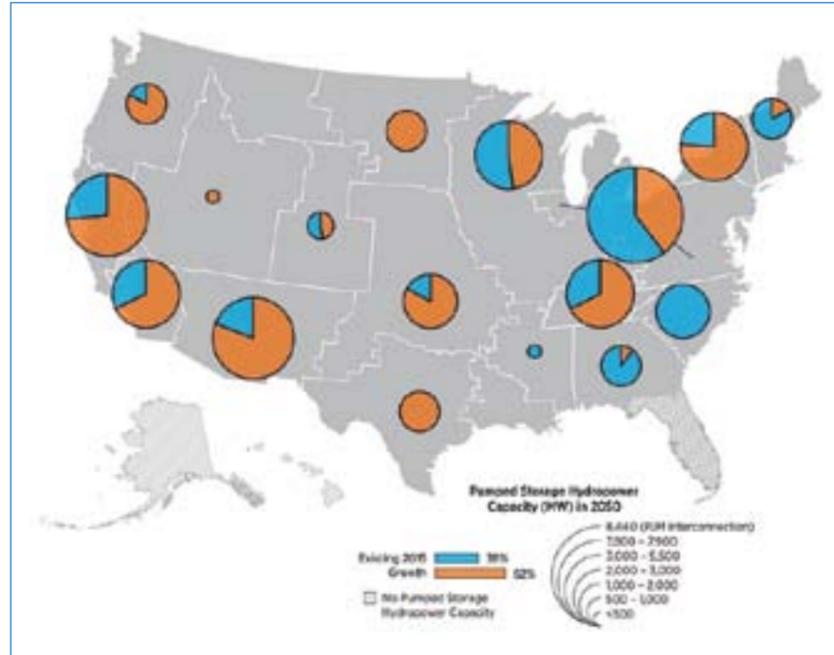
Although the basic rules about FERC licensing jurisdiction are well known, certain misperceptions persist about the bases for FERC jurisdiction which could result in a developer making disadvantageous decisions. With the above discussion in mind, we hope to put these misconceptions to rest.

### 1. Every new hydro project requires a license

To recap, most hydro projects require a license because they satisfy one of the four criteria of Section 23(b). However, a closed-loop project that uses only groundwater and is located on non-federal land should not require a license. If such a project is located on federal land, FERC holds that it must be licensed regardless of the source of the water. However, assuming no jurisdictional wetlands are involved, neither a Corps dredge and fill permit under CWA Section 404 nor a state water quality certification under CWA Section 401 should be required because groundwater is not a water of the United States.<sup>[20]</sup>

### 2. Every project at a federal dam requires a FERC license

Section 23(b) notwithstanding, a project located at a federal dam is not necessarily required to be licensed. All projects at Corps dams not authorized exclusively for federal development must be licensed, but a project at a Bureau dam may or may not need a FERC license. Under the authorizing statute, if hydroelectric power is not reserved for federal development, a FERC license will be required. In other cases, the Bureau has sole authority to authorize non-federal development under a Lease of Power Privilege. At Bureau dams the



applicable legislation needs to be interpreted in every instance. For many years non-federal developers were at risk of being caught in a dispute between FERC and the Bureau over which agency had authority to permit non-federal development. To clarify matters, FERC

and the Bureau executed a Memorandum of Understanding in 1992 establishing procedural steps and rebuttable presumptions to guide resolution of this matter.<sup>[21]</sup>

### 3. It is always advantageous to obtain a FERC license for a project subject to voluntary licensing under Section 4(e)

This will depend on the circumstances. True, a Section 4(e) permissive license may confer certain advantages. Perhaps the greatest of these is eminent domain authority under FPA Section 21. However, such authority is not needed if the licensee already owns project lands and water rights or can acquire them amicably. Also, a municipal or state-regulated utility may have eminent domain authority under state law.

It is commonly said that obtaining a license assists with financing. This may be, but many other factors influence the decision to invest – or not to invest – in a new project. These include license conditions, the cost of capital, and the price of energy in the relevant wholesale bulk power market. These factors evidently have more influence on investors than the existence of a license, because FERC has issued many licenses for pumped storage projects in recent decades that were unable to attract financing and have not been built.

If a pumped storage developer elects not to seek a FERC license and a license is not required under Section 23(b), the project will be subject to state and local law. Another potential advantage of FERC licensing is preemption of state and local laws. The Supreme Court has twice affirmed that the FPA is a comprehensive licensing scheme that, with one limited exception regarding allocation of water rights,

preempts state and local laws.<sup>[22]</sup> However, FERC's policy is that licensees must comply with state and local requirements unless FERC finds that compliance will unduly interfere with the licensee's ability to carry out FERC's license requirements.<sup>[23]</sup> Such findings are rare. Also, most licensees comply with state and local laws as a matter of routine to avoid litigation and delay.

Finally, for closed-loop projects that affect only groundwater, whatever advantages may come from holding a FERC license may be outweighed by a faster and easier state permitting process and/or less onerous license conditions. The only way to assess the relative advantages is to understand both the federal and state permitting regimes.

### 4. Operators of unlicensed projects should obtain a license to prevent a hostile takeover by a Section 4(e) licensee.

In the late 1980s some non-owners sought FERC preliminary permits or licenses for existing unlicensed projects to displace the owner (as a permittee, the non-owner would have precedence over the owner in any competitive license proceeding). Also, preliminary permits or license applications were filed to develop unused hydropower capacity at existing licensed projects. In response, FERC adopted its "claim-jumping" policy of refusing to issue preliminary permits for such efforts.<sup>[24]</sup> Thus, a non-owner may file a license application to take over an unlicensed project, but in the claim-jumping orders FERC held that as a rule public policy favors retention by project owners of projects that are operating legally. Since then, we are not aware of any effort to use a Section 4(e) license to take over an unlicensed project. This suggests that an owner obtaining a Section 4(e) license for an existing project simply to prevent a hostile takeover is likely unnecessary.

### 5. FERC has an expedited licensing process for closed-loop pumped storage projects.

There is no official expedited licensing process for closed-loop pumped storage projects. In the Hydropower Regulatory Efficiency Act of 2013,<sup>[25]</sup> Congress directed FERC to explore the feasibility of a two-year licensing process through a pilot project for which closed-loop pumped storage would be eligible. However, the pilot program resulted in only one license for a conventional project.

It is notable, however, that in at least one instance involving a closed-loop project FERC broke with the long-standing rule in its "traditional" licensing process of not becoming involved until the license application is filed by holding environmental scoping over a year before the application was filed. The license for that project was issued 14 months after

## References

- [1] See Sacramento Mun. Util. Dist., 148 FERC ¶ 62,070 (2014) (400 MW Iowa Hill Pumped Storage Development); Eagle Crest Energy Co., 147 FERC ¶ 61,220 (2014) (1,300 MW Eagle Mountain Pumped Storage Hydroelectric Project); GB Energy Park, LLC, 157 FERC ¶ 62,196 (2016) (400 MW Gordon Butte Pumped Storage Project).
- [2] FERC, Issued Preliminary Permits for Pumped Storage Projects (2017), available at <https://www.ferc.gov/industries/hydropower/gen-info/licensing/pump-storage/issued-permits.pdf>.
- [3] FERC, Pending Preliminary Permits for Pumped Storage Projects (2017), available at <https://www.ferc.gov/industries/hydropower/gen-info/licensing/pump-storage/pending-permits.pdf>.
- [4] DOE, Hydropower Vision – A New Chapter for America's 1st Renewable Electricity Source (2016), available at [https://energy.gov/sites/prod/files/2016/10/f33/Hydropower-Vision-10262016\\_0.pdf](https://energy.gov/sites/prod/files/2016/10/f33/Hydropower-Vision-10262016_0.pdf).
- [5] See FERC, Pumped Storage Projects, <https://www.ferc.gov/industries/hydropower/gen-info/licensing/pump-storage.asp> (last visited May 9, 2017).
- [6] 16 U.S.C. § 817 (2012).
- [7] For FPA purposes, navigable waters are those parts of stream or other water bodies over which Congress has jurisdiction under the Commerce Clause to regulate interstate commerce and which are or can be made navigable. Id. § 796(8). The term "navigable waters" under the CWA is broader, including all "waters of the United States." 33 U.S.C. § 1362(7) (2012).
- [8] 16 U.S.C. § 797(e).
- [9] 420 U.S. 395, 423 (1975).
- [10] 10 FERC ¶ 61,273 (1980).
- [11] Id. at p. 61,528.
- [12] 70 FERC ¶ 61,325 (1995).
- [13] *Sporhase v. Nebraska*, 458 U.S.941 (1982) (*Sporhase*).
- [14] *Swanton Village*, 70 FERC ¶ 61,325 at p. 61,995.
- [15] Id. at p. 61,996 (quoting *Fed. Power Comm'n v. Union Elec. Co.*, 381 U.S. 90, 96 (1965)).
- [16] 147 FERC ¶ 61,220 at P 2 (2014), reh'g and stay denied, 153 FERC ¶ 61,058 at PP 21-22 (2015).
- [17] *Eagle Crest Energy Co.*, 153 FERC ¶ 61,058 at PP 18-30.
- [18] Id. at P 30.
- [19] Clean Water Rule: Definition of "Waters of the United States," 80 Fed. Reg. 37,054, 37,099 (June 29, 2015).
- [20] *Eagle Crest Energy Co.*, 147 FERC ¶ 61,220 at PP 47-50.
- [21] See Memorandum of Understanding Between the Federal Energy Regulatory Commission and the Department of the Interior, Bureau of Reclamation, 58 Fed. Reg. 3269 (Jan. 8, 1993).
- [22] See *California v. FERC*, 495 U.S. 490 (1990); *First-Iowa Hydroelectric Coop. v. Fed. Power Comm'n*, 328 U.S. 152, 170 (1946).
- [23] *PacifiCorp*, 115 FERC ¶ 61,194 at P 8 (2006).
- [24] See *Inghams Corp.*, 52 FERC ¶ 61,107 (1990), reh'g denied, 58 FERC ¶ 61,033 (1992); *Beardslee Corp.*, 52 FERC ¶ 61,108, reh'g denied, 58 FERC ¶ 61,030 (1990). The policy was affirmed in *Canada Creek Corp.*, 103 FERC ¶ 61,221 at PP 22-24 (2003).
- [25] Pub. L. No. 113-23, 127 Stat. 493 (2013).

the application was filed, which is far below the average time for license processing. That suggests that if the circumstances are appropriate, such as minimal environmental issues and lack of serious opposition, FERC may be open to crafting an expedited processing for closed-loop projects.

Finally, in the last Congress, Section 1206 of the North American Energy Security and Infrastructure Act of 2015 (H.R. 8), would have limited the scope of conditions imposed through FERC and other federal authorizations for a closed-loop project to those needed for public safety or that are reasonable, economically feasible, and essential to protect fish and wildlife resources directly impacted by the project. Although the bill was not enacted, a discussion draft of a bill entitled the "Promoting Closed-Loop Pumped Storage Hydropower Act," which duplicates the provisions of H.R. 8 – was recently discussed at a hearing before the House Energy and Commerce Subcommittee on Energy. Such limits on the scope of agency review may also help expedite the permitting process. ■

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Hunter Cox is a Law Clerk at Van Ness Feldman, LLP, whose primary focus is legal and regulatory issues affecting Alaskan Native and tribal clients over a wide range of areas, including environment, energy, and business development. He also works with non-tribal clients on litigation and regulatory matters involving energy, natural resources, environmental law, and public land use. Prior to joining the firm, Hunter clerked at the Native American Rights Fund and a national law firm. Hunter received his J.D. degree from the University of Michigan and his Bachelor's degree from Dartmouth College.