

189 FERC ¶ 62,023  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Gravity Storage LLC

Project No. 15333-000

ORDER ISSUING PRELIMINARY PERMIT  
AND GRANTING PRIORITY TO FILE LICENSE APPLICATION

(Issued October 15, 2024)

1. On November 16, 2023, Gravity Storage LLC (Gravity Storage) filed an application for a preliminary permit, pursuant to section 4(f) of the Federal Power Act (FPA),<sup>1</sup> proposing to study the feasibility of the Red Lake Pumped Storage Project to be located near Kingman in Mohave County, Arizona. The proposed project would occupy land administered by the U.S. Bureau of Land Management (BLM). For the reasons discussed below, we are issuing a preliminary permit to Gravity Storage.

**I. Project Proposal**

2. The proposed closed-loop<sup>2</sup> pumped storage project would consist of the following new facilities: (1) a 3,740-foot-long, 200-foot-high rockfill concrete embankment dam (Upper Dam 1) and a 3,000-foot-long, 60-foot-high rockfill concrete embankment dam (Upper Dam 2), which together would impound a 275-acre upper reservoir with a total storage capacity of 26,000 acre-feet at a water surface elevation of 5,700 feet average above mean sea level (MSL); (2) a 4,240-foot-long, 160-foot-high rockfill concrete embankment dam that would impound a 273-acre lower reservoir with a total storage capacity of 26,000 acre-feet at a water surface elevation of 3,400 feet MSL; (3) three 15,400-foot-long, 36-foot-diameter reinforced concrete branch penstocks; (4) six 330-foot-long, 25-foot-diameter steel turbine penstocks; (5) a 1,200-foot-long, 150-foot-wide and 160-foot-high reinforced concrete powerhouse containing six 500 megawatt pump-turbine generator units, for a total installed capacity of 3,000 megawatts; (6) three 3,100-foot-long reinforced concrete tailraces; (7) a 500-kilovolt substation; (8) a 6-mile-long, 500-kilovolt transmission line connecting the new substation to the existing Western Area Power Administration transmission line, which connects to the Mead and Westwing substations; and (8) appurtenant facilities. The proposed project would use water from existing wells located near Red Lake Playa for the initial fill of the lower reservoir.

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<sup>1</sup> 16 U.S.C. § 797(f).

<sup>2</sup> A closed-loop project does not have an ongoing connection to a natural body of water, such as a river.

Additionally, Gravity Storage proposes to install solar power plants on the surface of the upper and lower reservoirs to minimize evaporation due to the arid desert climate.

3. The proposed project would have an estimated annual generation of 13,140 gigawatt-hours.

## **II. Notice, Interventions, and Comments**

4. The Commission issued public notice of Gravity Storage's permit application on June 12, 2024, establishing a deadline of August 12, 2024,<sup>3</sup> for filing comments, interventions, and competing applications. Notice of the application was published in the *Federal Register* on June 18, 2024.<sup>4</sup>

5. Jack Ehrhardt and the Center for Biological Diversity filed timely, unopposed motions to intervene and comments.<sup>5</sup> Comments were filed by Arizona State Representative John Gillette; the Mohave County Board of Supervisors; the U.S. Department of Interior (Interior); the Arizona Game and Fish Department (Arizona GFD); Susan McAlpine; Alex Roelofs; Robert Morrow; Kingman City Council member Cengiz Arik; Keith D. Janssen; Candice Weidner; Michael D. Crouch; Lara Rozzell on behalf of the National Park Service's Lake Mead National Recreation Area (LAKE); Kaitlyn Smith; Jodi Smith;<sup>6</sup> Sheli Grigg; Tim Walsh on behalf of the City of Kingman (City of Kingman); and Danny Baker. Numerous commenters filed comments in opposition. Gravity Storage filed a response to the City of Kingman's concerns.

6. The comments, which are discussed below, have been fully considered in determining whether to issue the permit.

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<sup>3</sup> The Commission's Rules of Practice and Procedure provide that if a filing deadline falls on a Saturday, Sunday, holiday, or other day when the Commission is closed for business, the filing deadline does not end until the close of business on the next business day. 18 C.F.R. § 385.2007(a)(2) (2024). Because the 60-day deadline fell on a Sunday (i.e., August 11, 2024), the filing deadline was extended until the close of business on Monday, August 12, 2024.

<sup>4</sup> 89 Fed. Reg. 51,514 (June 18, 2024).

<sup>5</sup> Timely, unopposed motions to intervene are granted by Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2024).

<sup>6</sup> The comments filed on August 10, 2024, were signed by Jodi Smith, Herbert Smith, and Justin Smith.

### III. Discussion

7. Section 4(f) of the FPA authorizes the Commission to issue preliminary permits for the purpose of enabling prospective applicants for a hydropower license to secure the data and perform the acts required by section 9 of the FPA.<sup>7</sup> The purpose of a preliminary permit is to preserve the right of the permit holder to have the first priority in applying for a license for the proposed project that is being studied.<sup>8</sup> However, a preliminary permit does not authorize the permittee to access lands and does not authorize the permittee to undertake any land-disturbing activities.<sup>9</sup> The permittee must obtain authorization and comply with all applicable laws and regulations to conduct any field studies.<sup>10</sup> Further, permit conditions are framed to ensure that the permittee does not tie up a site without pursuing in good faith a study of the project's feasibility.<sup>11</sup> If the project is found to be feasible, the permittee can use the data and information gathered to prepare an application for a license.

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<sup>7</sup> 16 U.S.C. § 802.

<sup>8</sup> See, e.g., *Mt. Hope Waterpower Project LLP*, 116 FERC ¶ 61,232, at P 4 (2006) (“The purpose of a preliminary permit is to encourage hydroelectric development by affording its holder priority of application (i.e., guaranteed first-to-file status) with respect to the filing of development applications for the affected site.”).

<sup>9</sup> Issuance of this preliminary permit is thus not a major federal action significantly affecting the quality of the human environment. A permit holder can only enter lands it does not own with the permission of the landholder, and is required to obtain whatever environmental permits federal, state, and local authorities may require before conducting any studies. See, e.g., *BOSTI Hydroelectric, LLC*, 185 FERC ¶ 61,041, at P 14 (2023); *Desert Pumped Storage LLC*, 177 FERC ¶ 61,104, at PP 6-9 (2021); *Three Mile Falls Hydro, LLC*, 102 FERC ¶ 61,301, at P 10 (2003).

<sup>10</sup> For example, if the permittee determines that installation of a gauging station is necessary to conduct studies during a permit term, it could involve access to the project site and installation of gauging equipment. To conduct this study, the permittee would need to obtain the necessary authorizations and comply with all laws before accessing the site or conducting any activity at the site.

<sup>11</sup> See *City of Richmond, Va.*, 46 FERC ¶ 62,041 (1989), *denying appeal*, 52 FERC ¶ 61,322, at 62,281 (1990).

**A. Adequacy of Notice**

8. The Center for Biological Diversity expresses concern with the apparent lack of notice to Indian Tribes (Tribes) with ties to the proposed project area. In addition, Interior notes that only the Hualapai Tribe was specified in the permit application as a Tribe that may be affected by the project and states that additional tribes have ties to the project area and should be contacted regarding the project.<sup>12</sup>

9. As required by section 4.32(a)(2)(v) of the Commission's regulations,<sup>13</sup> Gravity Storage listed the Hualapai Tribe as a Tribe that may be affected by the project. The Hualapai Tribe received notification of the permit application through the Commission-issued notice, which was individually mailed to them. As noted, the Commission issued notice of the application on June 12, 2024, and the notice was published in the *Federal Register* on June 18, 2024.<sup>14</sup> Further, as required by FPA section 4(f),<sup>15</sup> the Commission published notice in a local newspaper. Accordingly, Tribes were provided proper notice of the application.

**B. Public Interest**

10. The Mohave County Board of Supervisors, Ms. Jodi Smith, Ms. McAlpine, Ms. Grigg, and Mr. Crouch express concern that Mohave County will not see any benefit from the operation of the proposed project, with their land and water resources being negatively affected by the project but and generation from it benefiting California, Nevada, Colorado, or other areas of Arizona.

11. The Commission does not make a public interest licensing finding at the preliminary permit stage.<sup>16</sup> The Commission will make such a finding upon its review of any information and analyses that are developed and submitted as part of an application

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<sup>12</sup> Interior specifies the additional Tribes as being the Chemehuevi Tribe, Fort Mojave Indian Tribe, Pueblo of Zuni, Navajo Nation, Colorado River Indian Tribes, and Hopi Tribe.

<sup>13</sup> 18 C.F.R. § 4.32(a)(2)(v) (2024).

<sup>14</sup> 89 Fed. Reg. 51,514 (June 18, 2024).

<sup>15</sup> 16 U.S.C. § 797(f).

<sup>16</sup> The FPA does not condition the issuance of a preliminary permit upon a finding that the proposed project is in the public interest. Michael Arkoosh, 30 FERC ¶ 61,002 (1985); Wind River Hydro, LLC, 115 FERC ¶ 61,009, at P 10 (2006).

for a hydropower license. Accordingly, the commenters arguments would warrant consideration in a licensing proceeding but is premature here.

**C. Project Construction and Operation**

12. Commenters express concern regarding the potential impacts of project construction and operation on (1) the ecosystem;<sup>17</sup> (2) water availability and evaporation;<sup>18</sup> (3) fish and wildlife resources;<sup>19</sup> (4) native aquatic and terrestrial plants;<sup>20</sup> (5) land use;<sup>21</sup> (5) air quality;<sup>22</sup> (6) soil quality;<sup>23</sup> (7) aesthetics;<sup>24</sup> (8) local roads and infrastructure;<sup>25</sup> (9) property values;<sup>26</sup> (10) cultural resources;<sup>27</sup> and (11) the local economy.<sup>28</sup> In addition, Interior states that the proposed project would likely not conform with BLM's Kingman Resource Management Plan's (Kingman RMP) Visual Resource Management Class II objectives, and that the Kingman RMP would need to be amended for the proposed project to proceed. Interior also express concerns about cumulative effects to wildlife due to a proposed wind project in the area.

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<sup>17</sup> See, e.g., Kaitlyn Smith August 12, 2024 Comments at 1.

<sup>18</sup> See, e.g., Arizona State Representative John Gillette July 25, 2024 Comments at 2.

<sup>19</sup> See, e.g., Interior August 9, 2024 Comments at 4.

<sup>20</sup> See, e.g., Arizona GFD August 21, 2024 Comments at 4-5.

<sup>21</sup> See, e.g., Interior August 9, 2024 Comments at 5-6.

<sup>22</sup> Kaitlyn Smith August 12, 2024 Comments at 1.

<sup>23</sup> *Id.*

<sup>24</sup> See e.g., Interior August 9, 2024 Comments at 2-4.

<sup>25</sup> See, e.g., Susan McAlpine June 28, 2024 Comments at 1.

<sup>26</sup> Jodi Smith August 12, 2024 Comments at 1.

<sup>27</sup> Mohave County Board of Supervisors August 6, 2024 Comments at 1.

<sup>28</sup> See, e.g., Tim Walsh August 13, 2024 Comments at 1; Danny Baker August 16, 2024 Comments at 1.

13. In response to concerns regarding the effects of the project on water availability in local aquifers, Gravity Storage states that it is considering installing floating solar panels and covers on the two project reservoirs to reduce evaporation and is developing other options that would limit project effects on the aquifers.<sup>29</sup>

14. As noted above, a preliminary permit does not authorize access to the project lands or project construction. Therefore, addressing these concerns at the permit stage is premature.<sup>30</sup> The purpose of a preliminary permit is to secure the permit holder's priority for the filing of a development application while it studies the feasibility of the project, including studying potential impacts, such as those identified by the commenters here.<sup>31</sup> No federal law bars development of Gravity Storage's proposed project. The proposed project's apparent conflict with the Kingman RMP, although clearly relevant in a license application proceeding, does not constitute a permanent legal bar, and it does not foreclose Gravity Storage from potentially receiving a license.<sup>32</sup> The proposed project may currently conflict with the resource plan, but project proposals at the permit stage are fluid and any eventual application for license submitted by Gravity Storage may differ in important aspects from the proposal set forth in its permit application. Concerns

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<sup>29</sup> Gravity Storage September 17, 2024 Response at 1.

<sup>30</sup> See, e.g., *SV Hydro, LLC*, 173 FERC ¶ 62,047, at P 5 (2020) (declining to address commenters' claims that the upper reservoir could fail and endanger residents and infrastructure downstream; that the initial fill water may be unavailable because it is subject to private and public ownerships; and that the proposed project could be an impediment to accessing iron ore deposits because they are premature); *Tomlin Energy LLC*, 169 FERC ¶ 61,037, at P 8 (2019) (explaining that concerns about impacts of project operation are premature at the permit stage); *Green Energy Storage Corp.*, 150 FERC ¶ 61,042, at P 10 (2015) (finding that opposition to the construction of the project is outside the scope of the preliminary permit proceeding); *Alaska Power Co., Inc.*, 138 FERC ¶ 62,130, at P 7 (2012) (stating that concerns over the project's impact on fish and wildlife resources and the cumulative impacts of basin development are premature at the permit stage).

<sup>31</sup> See, e.g., *Mt. Hope Waterpower Project LLP*, 116 FERC ¶ 61,232 at P 4.

<sup>32</sup> As the Commission has noted, BLM may amend its resource plan, and in any event, a permit does not constitute a guarantee that the project will be licensed. See *Utah Indep. Power, Inc.*, 141 FERC ¶ 61,226, at P 9 (2012); *Akron Hydroelectric Co.*, 76 FERC ¶ 61,251, at 62,299 (1996) (citing *Eagle Mountain Energy Co.*, 62 FERC ¶ 61,066 (1993), *aff'd sub nom. Mine Reclamation Corp. v. FERC*, 30 F.3d 1519 (D.C. Cir. 1994)).

regarding the impacts of project construction and operation on any resource, including water availability; the ecosystem; wildlife resources; native aquatic and terrestrial plants; air quality; soil quality; aesthetics; local roads and infrastructure; designated corridors for utility, transmission, and water; cultural resources; the local economy; and cumulative effects would be addressed and considered during a licensing proceeding, should Gravity Storage ultimately prepare a license application.<sup>33</sup>

**D. Consultation and Study Requirements**

15. LAKE recommends that Gravity Storage conduct and provide LAKE the results of studies on the engineering and economic feasibility, water supply, geology and sub-surface conditions, listed species and critical habitat and/or migration corridors, and cultural and tribal resources in the project area.

16. Interior states that BLM authorization will be needed prior to any ground disturbing activity and recommends that Gravity Storage conduct a visual impact assessment and a comprehensive study to analyze impacts to groundwater resources in the project area and to determine the potential impacts to rangeland resources.

17. The Arizona GFD recommends that Gravity Storage conduct surveys to determine the presence and available habitat for the western burrowing owl, California condor, golden eagles, nesting birds, and burrowing mammals in the project area.

18. Arizona State Representative John Gillette and Mr. Baker recommends that Gravity Storage explore project alternatives. Arizona State Representative John Gillet also notes that the Commission should work with Navajo Nation in exploring an alternative project.

19. The Commission does not dictate study requirements at the preliminary permit stage.<sup>34</sup> Rather, the studies to be undertaken by a permittee should be shaped by the Commission's filing requirements for development applications. Potential applicants are required to consult with appropriate state and federal resource agencies and affected Indian Tribes, conduct all reasonable studies requested by the agencies, and solicit comments on the applications before they are filed.<sup>35</sup>

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<sup>33</sup> See, e.g., *Tomlin Energy LLC*, 169 FERC ¶ 61,037 at P 8.

<sup>34</sup> See, e.g., *Cont'l Lands Inc.*, 90 FERC ¶ 61,355, at 62,177 (2000).

<sup>35</sup> See 18 C.F.R. § 4.38 (2024).

20. The Commission will consider in any future licensing proceeding arguments regarding project impacts on water availability, geologic resources, wildlife resources, cultural resources, and project alternatives. Accordingly, it might be prudent for the permittee to consider and study these issues during the term of the permit.

21. The Commission recognizes the unique relationship between the United States and Indian Tribes, acknowledges its trust responsibility to Indian Tribes, and endeavors to work with Tribes on a government-to-government basis, seeking to address the effects of proposed projects on Tribal rights and resources through consultation.<sup>36</sup> While we do not require permit applicants to consult with Tribes prior to filing permit applications, because, as noted above, a permit does not authorize any land-disturbing activity or entry onto land, applicants would be wise to do so. Hearing Tribal concerns and building positive relationships early on can greatly increase the likelihood of successful project development. Moreover, potential license applicants must consult with Tribes as they develop their applications.<sup>37</sup> Finally, should the permittee begin the license application process, Commission staff will offer to engage in government-to-government consultation with federally recognized Tribes identified as likely to have an interest in resources that could be affected by the proposed project,<sup>38</sup> and will also contact other potentially interested Tribes.<sup>39</sup>

#### **IV. Permit Information**

22. Article 4 of this permit requires the permittee to submit a progress report no later than the last day of each 12-month period from the effective date of this permit. The late filing of a report or the supplementation of an earlier report in response to a notice of probable cancellation will not necessarily excuse the failure to comply with the requirements of this article.

23. During the course of the permit, the Commission expects that the permittee will carry out prefiling consultation and study development leading to the possible development of a license application. The prefiling process begins with preparation of a Notice of Intent (NOI) and Pre-Application Document (PAD) pursuant to sections 5.5

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<sup>36</sup> *Id.* § 2.1c (2024).

<sup>37</sup> *Id.* §§ 4.38, 5.1 (2024).

<sup>38</sup> *Id.* §§ 2.1c, 5.7 (2024).

<sup>39</sup> *Id.* § 2.1c(j).



and 5.6 of the Commission's regulations.<sup>40</sup> The permittee must use the Integrated Licensing Process unless the Commission grants a request to use an alternative process (Alternative or Traditional Licensing Process). Such a request must accompany the NOI and PAD and set forth specific information justifying the request.<sup>41</sup> If the permittee files a development application, notice of the application will be published, and those interested may intervene and comment on the project and the effects of its construction and operation.

24. A preliminary permit is not transferable. The named permittee is the only party entitled to the priority of the application for license afforded by this preliminary permit. In order to invoke permit-based priority in any subsequent licensing competition, the named permittee must file an application for license as the sole applicant, thereby evidencing its intent to be the sole licensee and to hold all proprietary rights necessary to construct, operate, and maintain the proposed project. Should any other parties intend to hold during the term of any license issued any of these proprietary rights necessary for project purposes, they must be included as joint applicants in any application for license filed. In such an instance, where parties other than the permittee are added as joint applicants for license, the joint application will not be eligible for any permit-based priority.<sup>42</sup>

The Director orders:

(A) A preliminary permit is issued for the Red Lake Pumped Storage Project No. 15333 to Gravity Storage LLC for a period effective the first day of the month in which this permit is issued and ending either 48 months from the effective date or on the date that a development application submitted by the permittee has been accepted for filing, whichever occurs first.

(B) This preliminary permit is subject to the terms and conditions of Part I of the Federal Power Act and related regulations. The permit is also subject to Articles 1 through 4, set forth in the attached standard form P-1.

(C) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days of the date of its issuance, as provided in section

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<sup>40</sup> *Id.* §§ 5.5 & 5.6 (2024).

<sup>41</sup> *See id.* § 5.3 (2024).

<sup>42</sup> *See City of Fayetteville Pub. Works Comm'n*, 16 FERC ¶ 61,209 (1981).

Project No. 15333-000

- 10 -

313(a) of the Federal Power Act, 16 U.S.C. § 825l, and section 385.713 of the Commission's regulations, 18 C.F.R. § 385.713 (2024).

Timothy Konnert, Chief  
West Branch  
Division of Hydropower Licensing  
**Form P-1 (Revised May 2021)**

## **FEDERAL ENERGY REGULATORY COMMISSION**

### **TERMS AND CONDITIONS OF PRELIMINARY PERMIT**

**Article 1.** The purpose of the permit is to maintain priority of application for a license during the term of the permit while the permittee conducts investigations and secures data necessary to determine the feasibility of the proposed project and, if the project is found to be feasible, prepares an acceptable application for license. In the course of whatever field studies, the permittee undertakes, the permittee shall at all times exercise appropriate measures to prevent irreparable damage to the environment of the proposed project. This permit does not authorize the permittee to conduct any ground-disturbing activities or grant a right of entry onto any lands. The permittee must obtain any necessary authorizations and comply with any applicable laws and regulations to conduct any field studies.

**Article 2.** The permit is not transferable and may, after notice and opportunity for hearing, be canceled by order of the Commission upon failure of the permittee to prosecute diligently the activities for which a permit is issued, or for any other good cause shown.

**Article 3.** The priority granted under the permit shall be lost if the permit is canceled pursuant to Article 2 of this permit, or if the permittee fails, on or before the expiration date of the permit, to file with the Commission an application for license for the proposed project in conformity with the Commission's rules and regulations then in effect.

**Article 4.** No later than the last day of each 12-month period from the effective date of this permit, the permittee shall file a progress report. Each progress report must describe, for that reporting period, the nature and timing of what the permittee has done under the pre-filing requirements of 18 C.F.R. sections 4.38 and 5.1-5.31 and other applicable regulations; and, where studies require access to and use of land not owned by

Project No. 15333-000

- 11 -

the permittee, the status of the permittee's efforts to obtain permission to access and use the land. The Commission strongly encourages that progress reports be filed electronically via its eFiling system. Instructions for e-filing can be found on the Commission's website at <https://www.ferc.gov/ferc-online/overview>. For assistance, please contact FERC Online Support at [ferconlinesupport@ferc.gov](mailto:ferconlinesupport@ferc.gov); (866) 208-3676 (toll free); or (202) 502-8659 (for TTY). If eFiling is not an option, you may submit one paper copy. Submissions sent via the U.S. Postal Service (USPS) must be addressed to: the Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Room 1A, Washington, D.C. 20426. Submissions sent via any other carrier must be addressed to: the Secretary, Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, Maryland 20852.

Document Content(s)

P-15333-000 Red Lake Permit Order.docx.....1