

Electronically filed October 13, 2021

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, D.C. 20426

**Subject: Electric Lake Pumped Storage Project  
Application for Preliminary Permit**

Dear Ms. Bose:

PacifiCorp is pleased to submit to the Federal Energy Regulatory Commission (Commission) the attached application for a preliminary permit for the proposed Electric Lake Pumped Storage Project (Project). PacifiCorp is submitting this application to secure and maintain priority of application for a license for the Project while undertaking the studies necessary to determine its feasibility.

This letter and its enclosures have been filed electronically. The security classification of each component in this packet is shown in the enclosure table. Should the Commission have any questions concerning these documents, please contact Tim Hemstreet by phone at (503) 813-6170, or by email at [tim.hemstreet@pacificorp.com](mailto:tim.hemstreet@pacificorp.com).

Sincerely,

Mark A. Sturtevant  
Vice President, Renewable Resources

MAS:TH:BB

<b>Encl:</b>	Letter – Public
	Application for Preliminary Permit – Public
<b>eFile:</b>	Via eLibrary at <a href="http://www.ferc.gov">www.ferc.gov</a>

# **ELECTRIC LAKE PUMPED STORAGE HYDROPOWER PROJECT**

## **APPLICATION FOR PRELIMINARY PERMIT**

**INITIAL STATEMENT, GENERAL CONTENT, AND EXHIBITS 1 THROUGH 3**



October 2021

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## ACRONYMS AND ABBREVIATIONS

ac-ft—acre feet

CFR—Code of Federal Regulations

FERC—Federal Energy Regulatory Commission, or Commission

FPA—Federal Power Act

ft—feet

GWh—gigawatt hour

kV—kilovolt

msl—mean sea level

MW—megawatt

MWh—megawatt hour

PLSS—Public Land Survey System

USFS—U.S. Department of Agriculture, Forest Service

## INITIAL STATEMENT<sup>1</sup>

### BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

#### *APPLICATION FOR PRELIMINARY PERMIT*

(1) PacifiCorp (Applicant), a regulated electric utility privately held by Berkshire Hathaway Energy Company, applies to the Federal Energy Regulatory Commission (Commission or FERC) for a preliminary permit for the proposed Electric Lake Pumped Storage Project (Project), as described in the attached exhibits. This application is made in order that PacifiCorp may secure and maintain priority of application for a license for the Project under Part I of the Federal Power Act (FPA) while obtaining the data and performing the acts required to determine the feasibility of the Project and to support an application for a license.

(2) The location of the Project is:

State or territory:	Utah
County:	Emery and Sanpete Counties
Township or nearby town:	Scofield
Stream or other body of water:	Electric Lake, Upper Huntington Creek, near Spring Creek, Huntington Reservoir, and Cleveland Reservoir.

(3) The exact name and business address of the Applicant are:

PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232

The exact name and business address of each person authorized to act as agent for the Applicant in this application are:

Tim Hemstreet, Managing Director, Renewable Energy Development  
PacifiCorp  
825 NE Multnomah, Suite 1800  
Portland, OR 97232  
Email: [Tim.Hemstreet@pacificorp.com](mailto:Tim.Hemstreet@pacificorp.com)  
Phone: (503) 813-6170

Dustin Till, Assistant General Counsel  
PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232  
Email: [Dustin.Till@pacificorp.com](mailto:Dustin.Till@pacificorp.com)  
Phone: (503) 813-6589

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<sup>1</sup> 18 Code of Federal Regulations (CFR) §4.81(a)

(4) The Applicant, PacifiCorp, is a domestic corporation and is not claiming municipal preference under section 7(a) of the FPA. PacifiCorp, a corporation located in Portland, Oregon, is organized under the laws of the State of Oregon and, as such, is qualified under § 4(e) of the FPA to hold hydroelectric licenses issued under Part I of the FPA.

(5) The proposed term of the requested permit is 48 months.

(6) The proposed Project would use the waters within Electric Lake, a reservoir built in 1973 with the primary purpose of providing cooling water to PacifiCorp's Huntington Power Plant, which is located approximately 18 miles downstream. The reservoir is approximately 3.5 miles long, has a surface area of approximately 465 acres, and a storage capacity of approximately 31,500 acre-feet (ac-ft) at maximum normal operating level. The regulated water levels reach 8,575 feet (ft) at full supply level and can drop down to 8,474 ft during dry periods. There are no electric generating facilities associated with the reservoir at this time.

## GENERAL CONTENT<sup>2</sup>

*(1) Identify every person, citizen, association of citizens, domestic corporation, municipality, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the Project:*

PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232

*(2) Identify (providing names and mailing addresses):*

*(i) Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located:*

Emery County  
County Clerk  
PO Box 907  
Castle Dale, UT 84513

Sanpete County  
County Clerk  
160 North Main, Suite 202  
Manti, UT 84642

*(ii) Every city, town, or similar local political subdivision:*

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located;

The Project would not be located within the boundaries of any city, town, or local political subdivision.

(B) That has a population of 5,000 or more people and is located within 15 miles of the project dam;

Ephraim (population 7,308)  
5 South Main Street  
Ephraim, UT 84627

*(iii) Every irrigation district, drainage district, or similar special purpose political subdivision:*

(A) In which any part of the project, and any Federal facilities that would be used by the project, would be located;

or

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<sup>2</sup> 18 CFR §4.32(a)



(B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project;

Emery Water Conservation District  
20 South 100 East, Suite 300  
PO Box 998  
Castle Dale, UT 84513

*(iv) Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application:*

There are no other political subdivisions in the general area of the Project that there is reason to believe would be interested in, or affected by, the application.

*(v) All Indian tribes that may be affected by the project.*

Paiute Indian Tribe of Utah (Cedar Band of Paiutes, Kanosh Band of Paiutes, Koosharem Band of Paiutes, Indian Peaks Band of Paiutes, and Shivwits Band of Paiutes)  
440 North Paiute Dr.  
Cedar City, UT 84721

Shoshone-Bannock  
PO Box 306  
Fort Hall, ID 83203

Ute Indian Tribe of the Uintah and Ouray Reservation  
PO Box 190  
Fort Duchesne, UT 84026-0190

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

PacifiCorp

)  
)  
)  
)

Electric Lake Pumped  
Storage Project

Project No. \_\_\_\_\_

**SUBSCRIPTION AND VERIFICATION**

In witness whereof Applicant PacifiCorp has caused its name to be hereunto executed by Tim Hemstreet, PacifiCorp, Managing Director, Renewable Energy Development, this 8<sup>th</sup> day of October 2021.

State of Oregon  
County of Multnomah

PACIFICORP

by: Tim Hemstreet, Managing Director, Renewable Energy Development  
PacifiCorp  
825 NE Multnomah, Suite 1800  
Portland, OR 97232

being duly sworn, deposes and says that the contents of this Application for Preliminary Permit for the Electric Lake Pumped Storage Project are true to the best of his knowledge or belief. The undersigned Applicant has signed the Application this 8<sup>th</sup> day of October 2021.

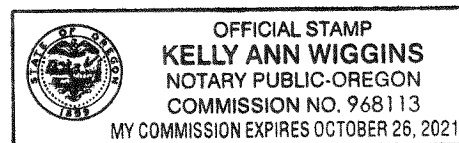
Tim Hemstreet

Tim Hemstreet, PacifiCorp, Managing Director, Renewable Energy Development

Subscribed and sworn to before me, a Notary Public of the State of Oregon this 8<sup>th</sup> day of October 2021.

Kelly A. Wiggins  
Kelly A. Wiggins, Notary Public

My Commission Expires 10/26/2021



## **EXHIBIT 1 PROJECT DESCRIPTION**

### **1.1 GENERAL PROJECT DESCRIPTION**

The proposed Electric Lake Pumped Storage Project (Project) is an open-loop, pumped-storage hydroelectric generating facility. It is PacifiCorp's intent with this application to evaluate the Project to meet current renewable energy system needs for energy storage.

The proposed Project would include:

- An upper reservoir with enough storage for operating 8 hours;
- A single powerhouse;
- Pumping/generating units with a maximum capacity of approximately 500 megawatts (MW);
- Electric Lake would be used as the lower reservoir;
- A penstock connecting the upper reservoir to Electric Lake; and
- A new transmission line connecting the powerhouse switchyard with the regional transmission grid.

### **1.2 RESERVOIRS**

The proposed Project would require the construction of a new upper reservoir and use existing Electric Lake as the lower reservoir.

#### **1.2.1 Lower Reservoir**

PacifiCorp intends to use the existing Electric Lake as the Project's lower reservoir. Electric Lake is impounded by Electric Lake Dam, which was completed in 1973 with the primary purpose of providing cooling water to the Huntington Power Plant, located approximately 18 miles downstream, near the mouth of Huntington Canyon. Electric Lake Dam is approximately 229 ft high, at an approximate elevation of 8,586 ft (crest) above mean sea level (msl). Electric Lake is approximately 3.5 miles long, has a surface area of 465 acres, and a storage capacity of approximately 31,500 ac-ft at maximum normal operating level. The regulated water levels reach 8,575 ft msl at full supply level and can drop down to 8,474 ft msl during dry periods. PacifiCorp owns and operates the reservoir and dam, and maintains the dam in compliance with State of Utah dam safety requirements. The reservoir and dam are included in PacifiCorp's Owner's Dam Safety program that meets FERC requirements.

#### **1.2.2 Proposed Upper Reservoir**

The proposed upper reservoir would require the construction of water-retaining structures, including a main dam and two smaller closure structures. The main dam is proposed as a concrete-gravity section (e.g., a roller-compacted concrete dam), whereas the two smaller

structures could be embankment structures. The crest of the retaining structures is proposed to be 9,600 ft msl to provide 10 ft freeboard and an upper reservoir full pool surface elevation at approximately 9,590 ft msl. The main dam is proposed to be approximately 3,900 ft long and 375 ft high, while the two embankment structures would be approximately 820 ft and 1,300 ft long and 85 ft and 150 ft high, respectively. The upper reservoir would have an active storage volume (based on 8 hours of operation) of approximately 5,000 ac-ft and a gross minimum head of 950 ft.

### **1.3 EXISTING OR PROPOSED TRANSMISSION LINES**

The primary 345-kilovolt (kV) transmission line to which the Project would connect is the existing Huntington-Mona line, which was constructed in 1971 and is part of the transmission system owned and maintained by PacifiCorp. This primary transmission line is currently maintained to FERC and North American Electric Reliability Corporation standards for system reliability.

The Project would require construction of an approximately 10.6-mile, 345- kV transmission line from the powerhouse to the PacifiCorp's existing Huntington-Mona 345-kV transmission line (Exhibit 3).

### **1.4 GENERATING EQUIPMENT AND CAPACITIES**

#### **1.4.1 Generators**

The turbine and generator configurations have not been finalized at this time but could potentially be three 167-MW Francis pump-turbines units or a number of units that would be most efficient for the project.

#### **1.4.2 Penstocks**

A water intake structure would be constructed within the eastern side of the upper reservoir. A single 24-foot diameter, 1.8-mile-long penstock would convey water between the proposed upper reservoir and the proposed powerhouse at Electric Lake. Depending on the final configuration, the penstock could trifurcate and deliver water to each of the three turbine units or maintain the single pipe layout to a single unit.

#### **1.4.3 Powerhouse/Pump Station**

The proposed powerhouse would be along the southwestern shore of Electric Lake in Bear Canyon. A powerhouse with a generating capacity of approximately 500 MW would be excavated into the shoreline of the existing lake. The powerhouse would be equipped with up to three turbines for generation and three pumps to return water from Electric Lake back up to the upper reservoir via the penstock. A short section of tailrace would be excavated from the powerhouse into Electric Lake ensuring sufficient depth for operations across all reservoir elevations.

## 1.5 UPPER RESERVOIR SPILLWAYS

The Project would be an open-loop system that would exchange water between the new upper reservoir and the existing Electric Lake lower reservoir. To reduce the risk associated with embankment overtopping, emergency freeboard would be maintained in the upper reservoir, and redundant controls would be used. As a secondary measure, the upper reservoir would include an emergency spillway designed to pass the pumping flow rate without failing the embankment. The upper reservoir would be off-channel and would not capture any precipitation from outside the impoundment.

## 1.6 AVERAGE ANNUAL ENERGY PRODUCTION

The primary operational mode of this Project would be to support and balance PacifiCorp's system energy needs while allowing for the incorporation of additional variable renewable generation resources such as wind and solar. The Project would pump water from the lower reservoir during times when surplus energy from other resources is available and generate electricity during periods of high demand. Depending on customer energy demands and available energy production on PacifiCorp's system, the Project could pump and generate multiple times in a 24-hour period.

The total estimated annual energy production would be 1,460 gigawatt-hours (GWh). The installed capacity of the Project would be 500 MW. The available hydraulic head as proposed would be 1,015 feet and the daily output (based on a daily fill and run cycle) would be 4,000 megawatt-hours (MWh). The Project would have an anticipated 80% efficiency rating, so daily pumping energy (based on a daily fill and run cycle) would be 5,000 MWh. The upper reservoir would be sized to provide enough active storage for an 8-hour water supply to the powerhouse.

## 1.7 LANDS OF THE UNITED STATES

The proposed Project is located in Emery and Sanpete Counties, Utah. The locations identified by Public Land Survey System (PLSS) township, range, and section of the lands of the United States within the proposed Project boundary are presented in Table 1, depicted in Exhibit 3, and identified in Form FERC-587 enclosed with this application.

**Table 1. PLSS location of lands of the United States within the proposed Project boundary**

<b>PLSS Township and Range</b>	<b>PLSS Section</b>	<b>Subdivision of Section</b>	<b>Federal Acres within Proposed Project Boundary</b>	<b>Agency Jurisdiction</b>
13S 6E	34	SE, SW	241	USFS
13S 6E	35	Gov Lots 3, 4, 5, 6, 7, SE, SW	367	USFS
14S 5E	25	Gov Lots 3, 4, 5, 6, SE, SW	373	USFS
14S 5E	26	SE, SW	195	USFS

<b>PLSS Township and Range</b>	<b>PLSS Section</b>	<b>Subdivision of Section</b>	<b>Federal Acres within Proposed Project Boundary</b>	<b>Agency Jurisdiction</b>
14S 5E	35	NE, NW	155	USFS
14S 6E	8	NE, NW, SE, SW	646	USFS
14S 6E	9	NE, NW, SE, SW	647	USFS
14S 6E	10	SE	123	USFS
14S 6E	11	SW	41	USFS
14S 6E	14	SW	10	USFS
14S 6E	17	NE, NW, SE, SW	657	USFS
14S 6E	20	SE, SW	123	USFS
14S 6E	21	NE, SE, SW	446	USFS
14S 6E	28	NE, NW	123	USFS
14S 6E	29	NE, NW	286	USFS
14S 6E	30	Gov Lots 2, 3, NE, NW, SE, SW	361	USFS
<b>Total</b>			<b>4,791</b>	

Note: USFS = United States Forest Service

No areas within or in the vicinity of the Project boundary labeled on Exhibit 3 are included or have been designated for study for inclusion in the National Wild and Scenic Rivers System.

No areas within the Project boundary labeled on Exhibit 3, have been: (1) designated as wilderness area; (2) recommended for designation as wilderness area; or (3) designated as wilderness study area.

## **1.8 REGIONAL WATER SOURCES**

The proposed Project is an open-loop, system that would circulate the same water between Electric Lake reservoir and a newly constructed upper reservoir. Water would be required to initially construct and fill the reservoirs, and over the long-term, minor amounts of make-up water would be required to account for losses due to evaporation and impoundment leakage. Water is anticipated to be sourced using a portion of the water rights currently held by the Applicant in Upper Huntington Creek for the Huntington power plant. During the study phase of the Project, the Applicant will create a water balance model for the Project and review existing

water sources to determine if other supplemental sources will be required and if groundwater sources are available to make up for upper reservoir leakage.

## **1.9 PUBLIC INTEREST**

As a rate-regulated electric utility, PacifiCorp serves its customers under a cost-of-service model through which energy solutions are delivered for customers at prices that are below national and regional averages. PacifiCorp is the largest grid operator in the western United States and serves the energy needs of 2 million customers across six western states through owned and contracted energy resources. PacifiCorp shares a vision with its customers and communities in which clean energy from across the West powers jobs and innovation. Over the past several years, PacifiCorp has outlined an ambitious path to substantially increase its renewable energy capacity, evolve its existing portfolio, and connect supply with demand through an expanded, modernized transmission system.

The proposed Project would support the public interest by advancing PacifiCorp's capability to serve customers with clean, affordable and reliable energy service by providing renewable energy storage and carbon-free generation of electricity. Storage resources such as the proposed Project will be increasingly necessary to balance the increasing percentage of wind and solar resources on PacifiCorp's system with dynamic customer energy needs.

In addition to the ability of the Project to support progress towards a clean energy future, the proposed Project would create job opportunities during construction and support long-term operations and maintenance positions during the anticipated 50-year life of the facility. The investments in the project would also support the local community through an expanded tax base and sales and use taxes resulting from construction.

## **EXHIBIT 2 DESCRIPTION OF STUDIES**

### **2.1 STUDY PROCESS**

Prior to submittal of this preliminary permit application, PacifiCorp reviewed existing data sources and performed conceptual engineering analyses. PacifiCorp proposes to conduct the studies listed below to further evaluate the technical, economic, financial, and environmental feasibility of the proposed Project in support of an application for license.

These studies and analyses will provide critical inputs to the decision process to proceed with a Notice of Intent and a Preliminary Application Document.

The implementation of studies will be conducted in accordance with applicable federal and state permitting requirements. Studies will be conducted so as not to affect cultural resources and endangered species, and with only minor alterations to lands and waters. Any land altered or disturbed will be adequately restored. Any necessary permits or landowner permissions needed will be obtained prior to initiating the studies described here.

PacifiCorp's professional staff along with qualified third-party consultants will complete the preliminary studies described below. PacifiCorp staff and consultant support may include civil, mechanical, electrical, and geotechnical engineers; cultural resource and recreation professionals; biologists; visual resource professionals; hydrologists; and water quality professionals.

### **2.2 PRELIMINARY STUDIES TO BE COMPLETED**

#### **2.2.1 Cultural Resources**

A search of the State Historic Preservation Office database will be performed to identify previous cultural resource investigations and recorded sites within the Project study area. Information pertinent to the Project will be summarized, and a detailed review will be conducted to determine additional studies that may be appropriate. The cultural resource review will be coordinated with the State Historic Preservation Office, affected Indian tribes, and appropriate federal agencies. Additional information on cultural resources in the Project study area may be provided by these entities. The results of the review will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document. If implementation of preliminary studies identified below results in ground disturbance, the ground disturbing activity will be reviewed by a professional archaeologist for its potential to affect cultural resources. Field investigation and/or protection measures may be required before the ground disturbing activity can proceed.

#### **2.2.2 Energy Needs and Economic Analysis**

An energy needs analysis of the proposed Project's ability to support variable renewable resources and contribute to balancing energy supply and demands will be performed. The analysis will include estimates of power production and renewable power integration. Long-term Project economics will be analyzed that will include cost data from other studies proposed in this



document. In addition, the Project may be evaluated in the Applicant's Integrated Resource Plan, which would evaluate the Project's ability to contribute to a least-cost, least-risk resource portfolio.

### **2.2.3 Engineering**

Preliminary engineering designs will be prepared for the powerhouse/pump station, upper and lower intake/outlet structures, upper and lower reservoirs, transmission lines, dam and dikes, and penstock to determine the feasibility, estimated costs and construction timelines.

### **2.2.4 Fisheries Studies**

A literature review and annotated bibliography of existing fisheries studies and data for Electric Lake will be prepared. This information will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

### **2.2.5 Sensitive Plants**

Plant communities will be delineated within areas potentially affected by Project development. In these same areas, surveys will be conducted for sensitive plants listed in State and Federal databases. This information will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

### **2.2.6 Terrestrial and Avian Species**

Wildlife habitat will be delineated within areas potentially affected by Project development. State and Federal databases will be queried to develop a list of potential threatened, endangered, or sensitive species potentially occurring in the Project area. This information will be used to prepare the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

### **2.2.7 Water Quality**

A literature review and annotated bibliography of water quality studies and data sources for the site will be prepared. This information will be used to prepare the discussion of resources and potential impacts, along with study plans or modeling that could be proposed in a Preliminary Application Document.

### **2.2.8 Geotechnical**

A geotechnical evaluation will be completed to assess existing geological, seismic, aerial, and soil data. An analysis will be completed of the suitability of area soil and rock for use as construction material and as foundations. Additional borings, soundings, soil sampling, and laboratory testing of materials may be conducted as needed to inform preliminary engineering studies. Given the proximity of the proposed Project to historic and active mining operations, review of area mine operations and potential future mining activity will be conducted to determine potential impacts and assess Project feasibility.

### **2.2.9 Land Survey**

A topographic and boundary survey of the proposed Project area will be completed. This information will be used to prepare the preliminary engineering plans and update the proposed Project boundary and land ownership information.

### **2.2.10 Recreation**

An assessment of recreation uses in the Project area and the potential Project effects on recreation will be prepared. This information will be used in the discussion of resources and potential impacts, along with study plans that could be proposed in a Preliminary Application Document.

### **2.2.11 Transportation**

An analysis of the area roadways and their capacity to support construction and operation of the Project will be completed.

### **2.2.12 Transmission Interconnection Study**

Consistent with the procedures outlined in Applicant's Open Access Transmission Tariff filed with FERC, transmission interconnection studies will be completed to determine the feasibility of interconnecting the proposed Project and any network upgrades that may be necessary, and their associated cost. The interconnection studies will determine the location, number of circuits, voltage, and configuration of the Project's interconnection with the regional utility network.

### **2.2.13 Visual Resources**

A baseline evaluation of existing visual resources at the Project site and from key observation points will be prepared. Visual simulations will be prepared from key observation points that incorporate Project structures including the powerhouse/pump station, transmission lines, dam, and upper reservoir. The visual simulations and the baseline will be used to identify preliminary issues or accommodations needed in the preliminary engineering work. This information will be used to prepare the discussion of resources and preliminary issues in a Preliminary Application Document.

## **2.3 ACCESS TO CONDUCT STUDIES**

No new road construction is proposed for the purpose of conducting the studies outlined in this document. If geotechnical and engineering studies proposed in this document require additional temporary access routes, those routes and their restoration will be coordinated with federal and state land managers in addition to any local landowners.

## **2.4 NEW DAM CONSTRUCTION**

PacifiCorp proposes construction of a new upper reservoir. As geotechnical and engineering work proceeds and the need for additional field investigations is identified, the Applicant will submit investigation plans to FERC and the landowner(s).

Information about field investigation will be submitted following the guidelines in 18 CFR §4.81 that require the following:

- (i) A description, including the approximate location, of any field study, test, or other activity that may alter or disturb lands or waters in the vicinity of the proposed project, including floodplains and wetlands; measures that would be taken to minimize any such disturbance; and measures that would be taken to restore the altered or disturbed areas; and
- (ii) A proposed schedule (a chart or graph may be used), the total duration of which does not exceed the proposed term of the permit, showing the intervals at which the studies, investigations, tests, and surveys, identified under this paragraph are proposed to be completed.

## 2.5 SCHEDULE OF STUDIES

The schedule for completion of the studies outlined in this document is presented in the table below. It is the intent of PacifiCorp that these studies be completed along this timeline. This schedule assumes that a preliminary permit will be issued to PacifiCorp by January 1, 2022.

Permit Issued	January 2022
Stakeholder Engagement and Perform Studies	January 2022–January 2024
Complete Initial Environmental and Economic Analysis	July 2025
File Notice of Intent and Preliminary Application Document	January 2026

## 2.6 STUDY COSTS

The estimated costs of carrying out the scope of work described in Exhibit 2 is almost \$3.15 million, allocated as follows.

Study	Estimated Costs	Target Completion Date
Energy Needs and Economic Analysis	\$100K	July 2023
Geotechnical	\$500K	September 2024
Engineering	\$2M	June 2024
Land Survey	\$100K	July 2024
Cultural	\$50K	October 2024
Transmission Interconnection	\$200K	November 2024
Fisheries	\$75K	July 2025

<b>Study</b>	<b>Estimated Costs</b>	<b>Target Completion Date</b>
Water Quality	\$75K	July 2025
Recreation	\$50K	July 2025

## 2.7 FINANCIAL SOURCES

PacifiCorp will self-finance the studies, investigations, and consultation activities identified in this application.

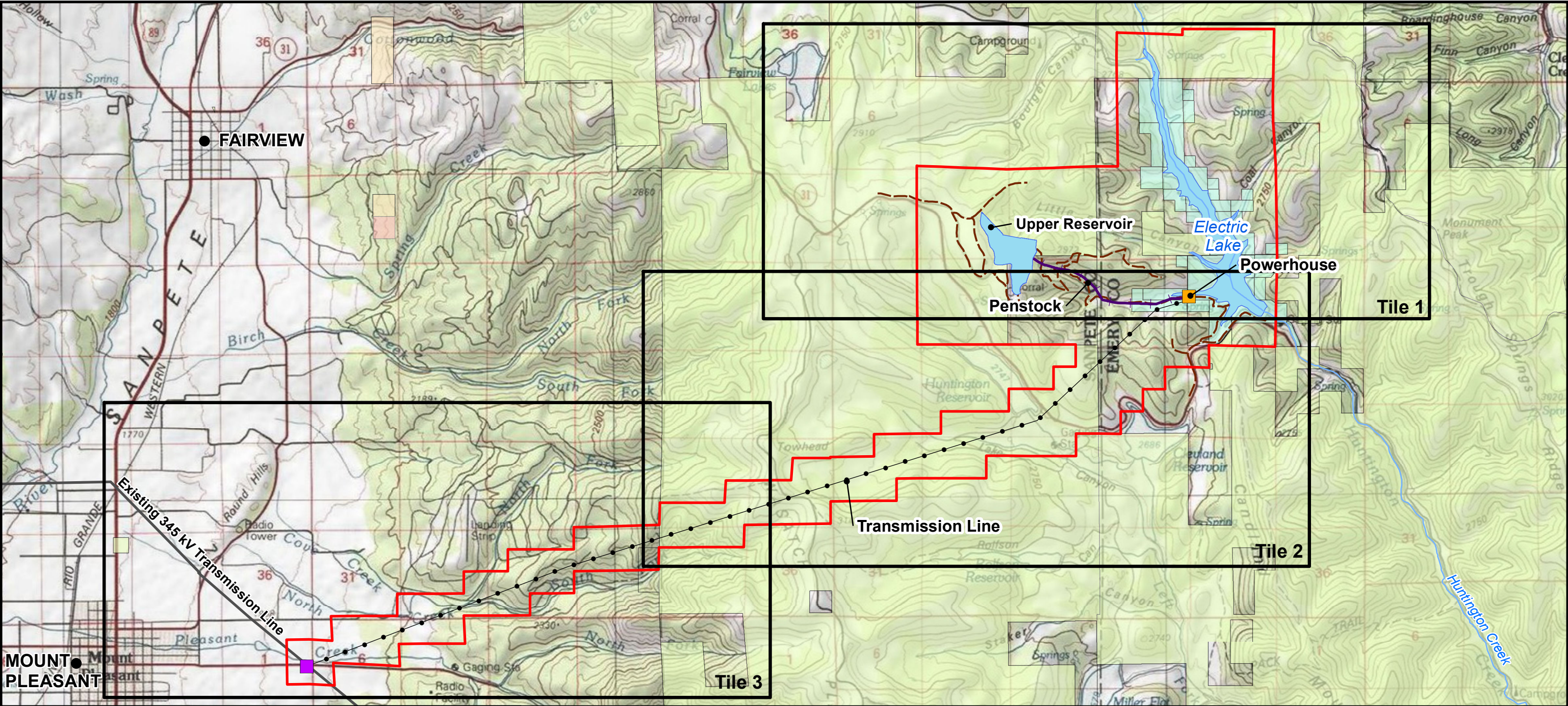
Revenues are generated by PacifiCorp through sales of electricity to wholesale and retail customers. Rates for retail energy sales are set by state public utility commissions in accordance with rate structures and public utility policies so that, in general, costs of service are covered by operating revenue. Operating revenue and energy costs are the key drivers of PacifiCorp's results of operations as they encompass retail and wholesale electricity revenue and the direct costs associated with providing electricity to customers. PacifiCorp's net income for the year ended December 31, 2020, was \$741 million on operating revenues of \$5.3 billion. PacifiCorp's operating revenue increased \$273 million for 2020 compared to 2019 due to higher retail revenue of \$250 million and higher wholesale and other revenue of \$23 million. For the same period, net income decreased by \$32 million for 2020 compared to 2019, primarily due to increased operation and maintenance expenses.

PacifiCorp's revenues are sufficient to meet the costs identified in this application. Additional financial data are presented in Berkshire Hathaway Energy Company's December 31, 2020, annual Form 10-K report available at: [https://www.brkenenergy.com/assets/upload/financial-filing/20201231\\_BHE%20Form%2010-K.pdf](https://www.brkenenergy.com/assets/upload/financial-filing/20201231_BHE%20Form%2010-K.pdf).

### **EXHIBIT 3   PROJECT MAPS**

Exhibit 3 must include a map or series of maps, to be prepared on United States Geological Survey topographic quadrangle sheets or similar topographic maps of a State agency, if available. *The maps need not conform to the precise specifications of §4.39(a) and (b).*






**Legend**

Project Boundary	PLSS Township	<b>Land Ownership</b>	
Existing Substation	PLSS First Division		USFS
Existing Transmission Line	PLSS Second Division		BLM
Existing Trail		State	
<b>Project Features</b>		Private	
Reservoir		PacifiCorp	
Powerhouse			
Penstock			
Transmission Line			

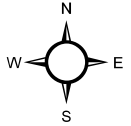
## Electric Lake Pumped Storage Project Overview



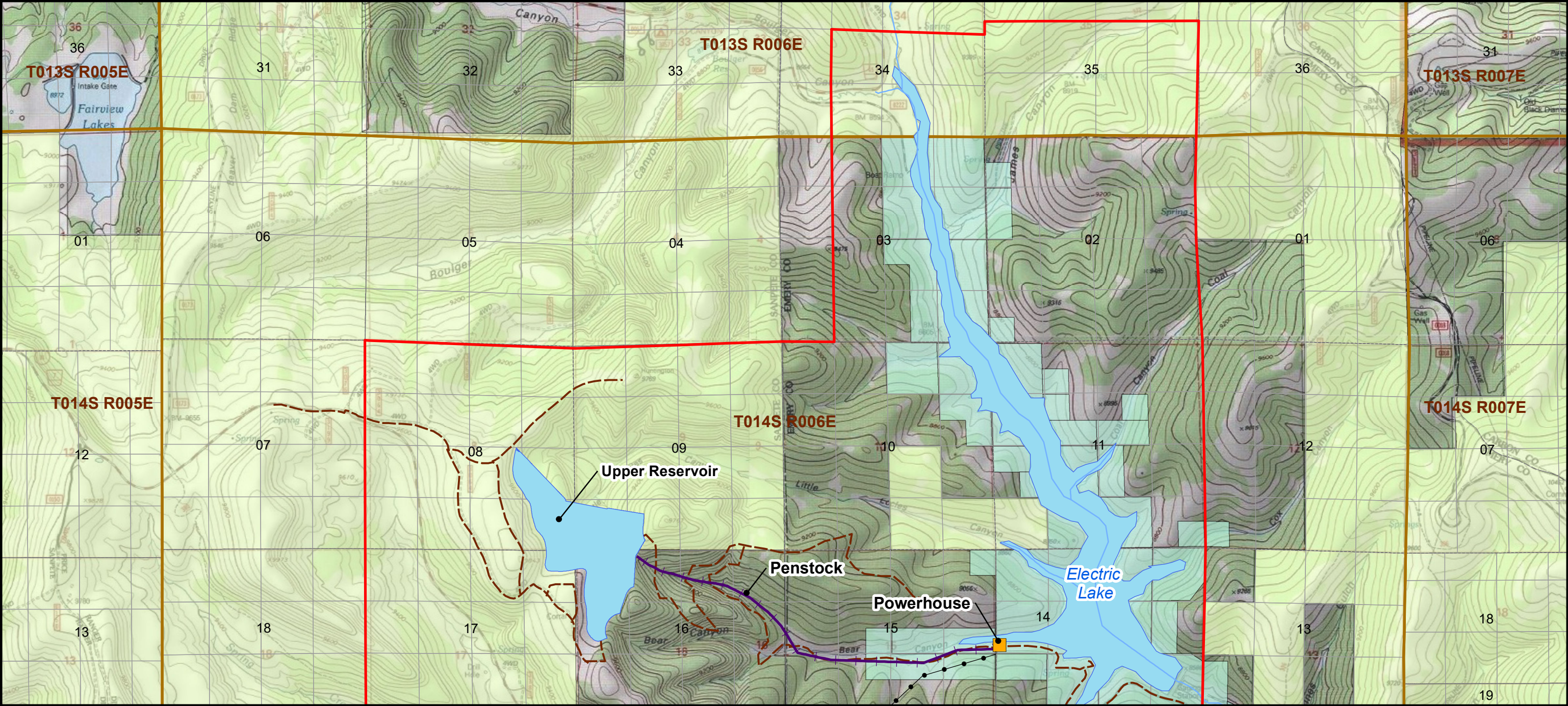
A BERKSHIRE HATHAWAY ENERGY COMPANY

0 0.5 1 2 Miles

1:70,000







**Legend**

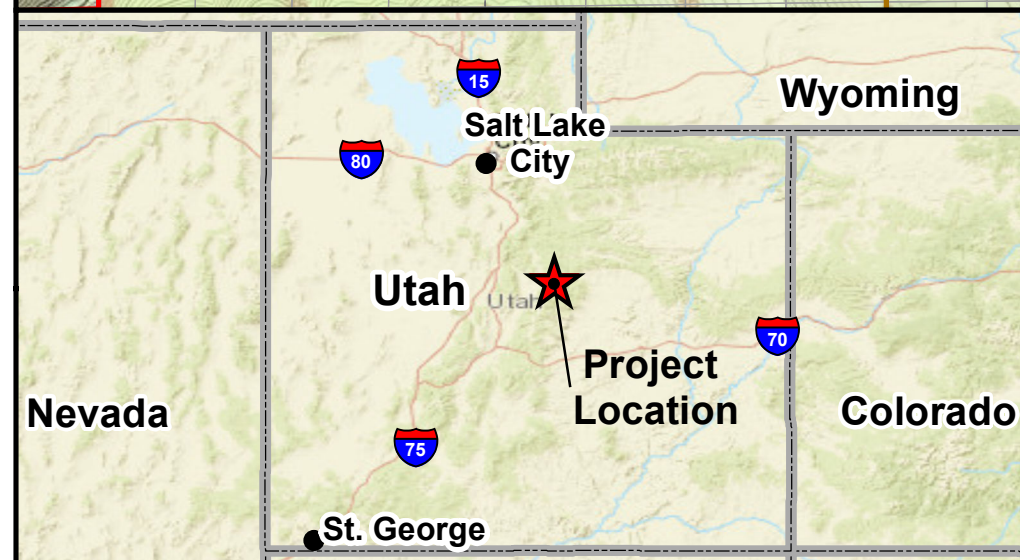
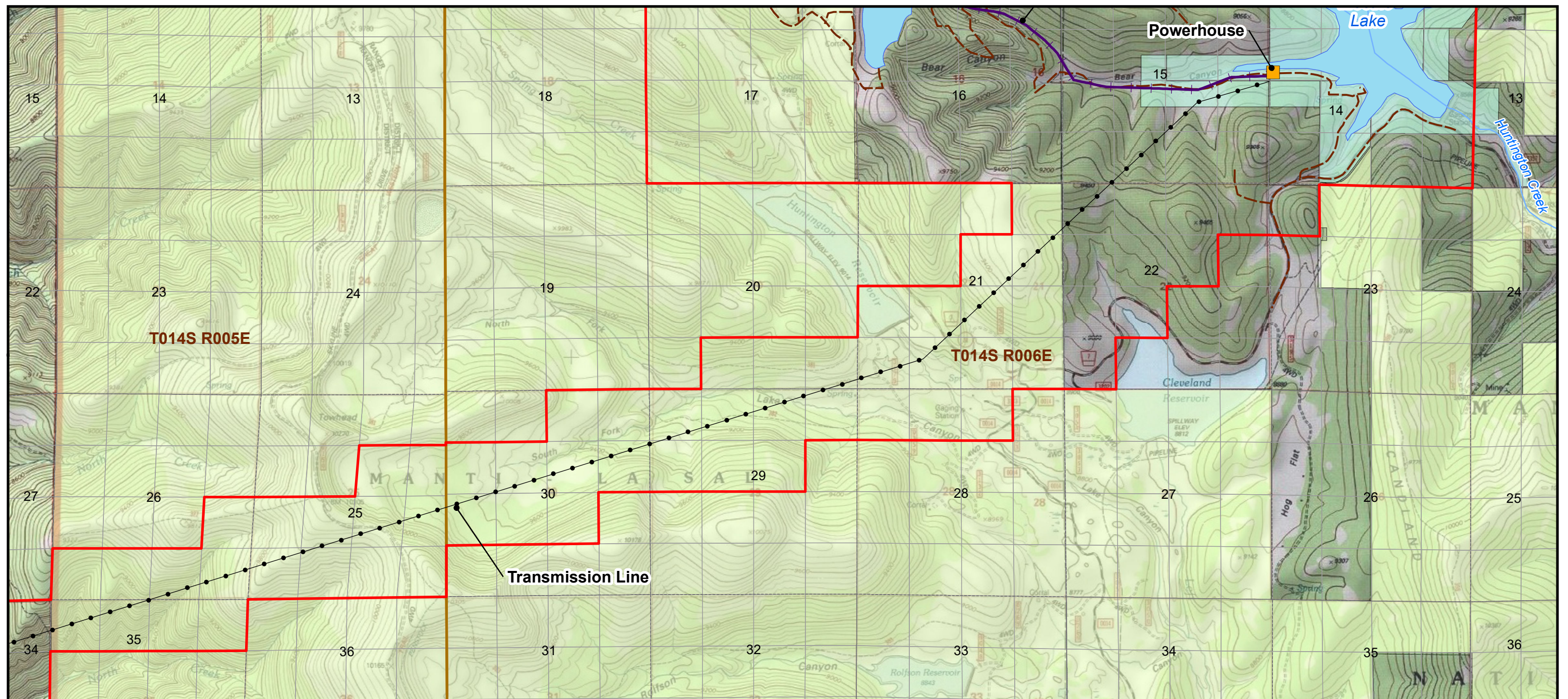
Project Boundary	PLSS Township	<b>Land Ownership</b>	
Existing Substation	PLSS First Division		USFS
Existing Transmission Line	PLSS Second Division		Private
Existing Trail		PacifiCorp	
<b>Project Features</b>			
Reservoir			
Powerhouse			
Penstock			
Transmission Line			

**Electric Lake Pumped Storage  
Tile 1**

**PACIFICORP**  
A BERKSHIRE HATHAWAY ENERGY COMPANY

0 0.25 0.5 1 Miles  
1:30,000





#### Legend

- Project Boundary
- Existing Substation
- Existing Transmission Line
- Existing Trail

#### Project Features

- Reservoir
- Powerhouse
- Penstock
- Transmission Line

- PLSS Township
- PLSS First Division
- PLSS Second Division

#### Land Ownership

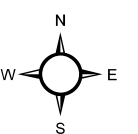
- USFS
- Private
- PacifiCorp

## Electric Lake Pumped Storage Tile 2

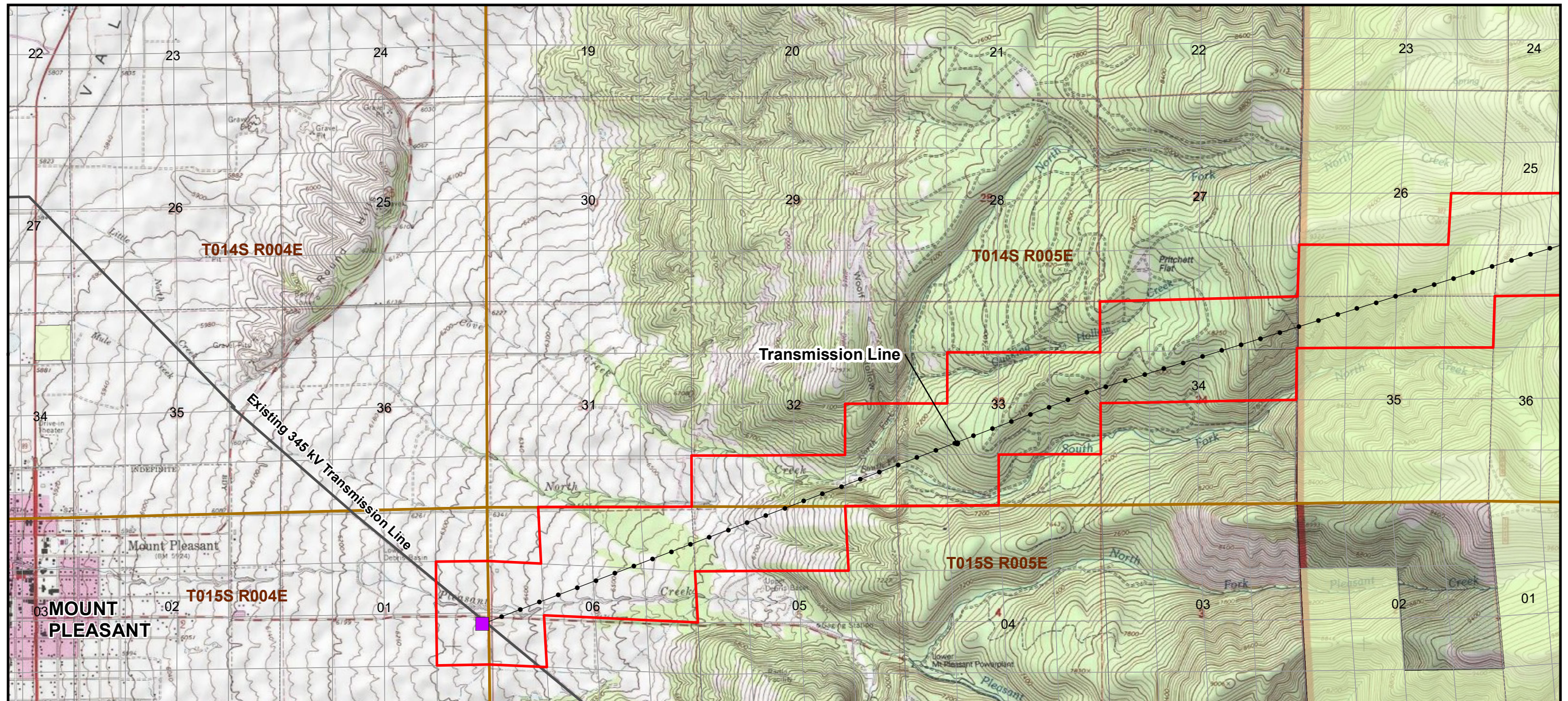


0 0.25 0.5 1 Miles

1:30,000







#### Legend

- Project Boundary
- Existing Substation
- Existing Transmission Line
- Existing Trail

#### Project Features

- Reservoir
- Powerhouse
- Penstock
- Transmission Line

- PLSS Township
- PLSS First Division
- PLSS Second Division

#### Land Ownership

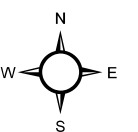
- USFS
- Private
- PacifiCorp

## Electric Lake Pumped Storage Tile 3



0 0.25 0.5 1  
Miles

1:30,000





**FERC Form 587**

## LAND DESCRIPTION

### Public Land States (Rectangle Survey System Lands)

1. STATE UT 2. FERC PROJECT NO. N/A  
3. TOWNSHIP 13S RANGE 6E MERIDIAN Salt Lake

4. Check one: License Check one: x Pending  
x Preliminary Permit Issued:

If preliminary permit is issued, give expiration date: not applicable

### 5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34 USFS Exhibit 3	35 USFS Exhibit 3	36

6. Contact's name Tim Hemstreet  
Telephone No. 503-813-6170  
Date submitted October 13, 2021

## LAND DESCRIPTION

### Public Land States (Rectangle Survey System Lands)

1. STATE UT 2. FERC PROJECT NO. N/A

3. TOWNSHIP 14S RANGE 5E MERIDIAN Salt Lake

4. Check one:  
☐ License  
☒ Preliminary Permit

Check one:  
☒ Pending  
☐ Issued: \_\_\_\_\_

If preliminary permit is issued, give expiration date: not applicable

### 5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
	Private Exhibit 3	Private Exhibit 3	State/Private Exhibit 3	USFS Exhibit 3	USFS Exhibit 3
				USFS Exhibit 3	

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021

## LAND DESCRIPTION

### Public Land States (Rectangle Survey System Lands)

1. STATE UT 2. FERC PROJECT NO. N/A  
3. TOWNSHIP 14S RANGE 6E MERIDIAN Salt Lake

4. Check one: License Check one: x Pending  
x Preliminary Permit Issued: \_\_\_\_\_

If preliminary permit is issued, give expiration date: not applicable

### 5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
			Private/ PacifiCorp Exhibit 3	Private/ PacifiCorp Exhibit 3	
7	8	9	10	11	12
	USFS Exhibit 3	USFS Exhibit 3	USFS/Private/ PacifiCorp Exhibit 3	USFS/Private/ PacifiCorp Exhibit 3	
18	17	16	15	14	13
	USFS Exhibit 3	Private Exhibit 3	Private/ PacifiCorp Exhibit 3	USFS/Private/ PacifiCorp Exhibit 3	
19	20	21	22	23	24
	USFS Exhibit 3	USFS Exhibit 3	Private Exhibit 3	Private Exhibit 3	
30	29	28	27	26	25
USFS Exhibit 3	USFS Exhibit 3	USFS Exhibit 3			
31	32	33	34	35	36

6. Contact's name Tim Hemstreet  
Telephone No. 503-813-6170  
Date submitted October 13, 2021

## LAND DESCRIPTION

### Public Land States (Rectangle Survey System Lands)

1. STATE UT 2. FERC PROJECT NO. N/A  
3. TOWNSHIP 15S RANGE 4E MERIDIAN Salt Lake

4. Check one: License            Check one:            Pending  
x Preliminary Permit            Issued:           

If preliminary permit is issued, give expiration date: not applicable

### 5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1 Private Exhibit 3
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021

## LAND DESCRIPTION

### Public Land States (Rectangle Survey System Lands)

1. STATE UT 2. FERC PROJECT NO. N/A

3. TOWNSHIP 15S RANGE 5E MERIDIAN Salt Lake

4. Check one: License Check one: x Pending  
x Preliminary Permit Issued: \_\_\_\_\_

If preliminary permit is issued, give expiration date: not applicable

### 5. EXHIBIT SHEET NUMBER OR LETTERS

Section 6	5	4	3	2	1
Private Exhibit 3	Private Exhibit 3				
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

6. Contact's name Tim Hemstreet

Telephone No. 503-813-6170

Date submitted October 13, 2021