

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

APPLICATION FOR PRELIMINARY PERMIT OF
LONGVIEW ENERGY EXCHANGE PUMPED STORAGE
HYDROELECTRIC PROJECT

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

Longview Energy Exchange, LLC

Project No. _____

**APPLICATION FOR PRELIMINARY PERMIT
LONGVIEW ENERGY EXCHANGE PUMPED STORAGE
HYDROELECTRIC PROJECT**

(1) Longview Energy Exchange, LLC (“Applicant”) applies to the Federal Energy Regulatory Commission (“FERC” or “Commission”) for a preliminary permit for the proposed Longview Energy Exchange Pumped Storage Hydroelectric Project (the “Project”), as described in the attached exhibits. This application is made in order that the Applicant may secure and maintain priority of application for a license for the Project under Part I of the Federal Power Act 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 proposed Project is:

State or territory:	Arizona
County:	Yavapai
Township or nearby town:	Ash Fork, AZ
Stream or other body of water:	Groundwater

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

Longview Energy Exchange, LLC
13397 Lakefront Drive
St. Louis, Missouri 63045
Attn: Mitchell M. Wexler, Manager
Telephone: (314) 739-5555

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

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(4) Longview Energy Exchange, LLC, is a privately owned limited liability corporation incorporated under the laws of the State of Arizona in good standing, and is not claiming preference under section 7(a) of the Federal Power Act.

(5) The proposed term of the requested permit is 36 months.

(6) There are no existing dams or other hydroelectric facilities in the proposed area of the Project.

(7) The following exhibits are filed herewith and are hereby made a part of this application:

Exhibit 1 – Description of the Proposed Project
Exhibit 2 – Description of Studies and Costs
Exhibit 3 – Maps of Project Works
Exhibit 4 – Form FERC-587

In accordance with 18 C.F.R. § 4.32(a), the Applicant provides the following information:

¹ Designated to receive service pursuant to 18 CFR §385.2010.

(1) Proprietary Rights:

The Applicant, referred to in Item 3 above, intends to own any proprietary right necessary to construct, operate or maintain the Project.

(2)

(i) County:

Yavapai County
1015 Fair Street
Prescott, AZ 86305

There are no federal facilities or federal surface lands that would be used by the proposed Project. The Applicant is concurrently providing a copy of this application to the state office of the Bureau of Land Management and will be conducting a more thorough evaluation of the subsurface estate as part of its ongoing studies.

(ii) City or town:

- a. The proposed Project would not be located within the limits of any incorporated city or town.
- b. There is no city or town within 15 miles that has a population greater than 5,000.

(iii) Irrigation district

There is no local irrigation district in which any part of the Project would be located.

- (iv) The Applicant is not aware of any other political subdivision in the general Project area likely to be interested in or affected by the Project.
- (v) The proposed Project is not located within any Indian Reservation or on any Indian owned land. Indian tribes in the area that may be affected by the Project include the Navajo Nation.

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Exhibit 1- Longview Energy Exchange Pumped Storage Hydroelectric Project

(1) Detailed Description of the Project.

Introduction

The Project is proposed as a pumped storage hydroelectric electric generating facility. The Project will involve construction of new water storage, water conveyance and generation facilities at off-channel locations where no such facilities exist at this time. The Project location is in a portion of Township 21 North, Ranges 4 and 5 West, Salt River Meridian of Yavapai County, Arizona, approximately 5 miles southeast of the unincorporated area known as Seligman, Arizona, and in the vicinity of what is known locally as the CF Ranch.

The Project will use off-peak energy to pump water from a single lower reservoir to one or two upper reservoirs during periods of low electrical demand. The Project will provide an economical supply of peaking capacity, as well as load following, system regulation through spinning reserve and immediately available standby generating capacity, among other ancillary services. The Project will develop, conserve and utilize in the public interest the water resources of the region.

Renewable energy development in the southwestern United States will continue to grow during the next decade. Significant public policy goals have been established in California and Arizona, as well as surrounding states, to reduce greenhouse gas emissions and fuel cost uncertainty associated with thermal generation. Thousands of megawatts of renewable generation capacity are planned to be added to the grid by 2020. Large-scale energy storage is essential for successful integration of variable energy resources while maintaining reliable grid operations.

The Project's location in north-central Arizona is well-situated to firm variable energy generation in Arizona and the southwestern region of the United States and to support the successful implementation of public policy goals.

Pumped storage hydroelectric generation is recognized as one of only two commercially feasible "bulk storage" technologies (Compressed Air Energy Storage being the other), and the only one to have been commercially proven on a large scale. Other emerging technologies (e.g. batteries and flywheels) are smaller in scale and have significant research and development timelines, but are expected to play a role in small scale applications and management of electricity distribution systems.

The Project site has the potential to develop up to 2,000 megawatts (MW) of generating capacity using the storage provided at two upper reservoirs (Upper Reservoir Site A: "UR-A" and Upper Reservoir Site B: "UR-B") that will be interconnected to a lower reservoir by a system of tunnels and penstocks. A powerhouse at the lower reservoir will house reversible pump-turbine units. The Project reservoirs will be formed by excavation and compacted rock and/or earth fill impoundments. In addition, opportunities exist within the vicinity of the Project to integrate renewable technologies, especially solar generation.

The elevation difference between the two upper reservoirs and the lower reservoirs will provide an average net generating head ranging from 1,400 feet (UR-A) to 1,250 feet (UR-B). It is anticipated that the proposed energy storage volume will permit operation of the Project at full capacity for up to 10 hours each weekday, with 12 hours of pumping each weekday night and additional pumping during the weekend to fully recharge the upper reservoirs.

The amount of active storage in the upper reservoirs will be approximately 8,200 acre-feet at UR-A and approximately 9,200 acre-feet at UR-B, providing 10 hours of energy storage at the maximum generating discharge. Water stored in both upper reservoirs will provide approximately 20,000 megawatt-hours (MWh) of on-peak generation on a daily basis.

The locations and proposed general configurations of Project facilities are presented on a series of maps provided in Exhibit 3 to this application (**Figures 3-1 through 3-4**). The Applicant will be considering alternative project configurations between the upper reservoirs and the lower reservoir. One such alternative involves replacing the tunnel associated with UR-B with a shorter 25-ft diameter tunnel that would interconnect UR-B with UR-A. In this option, a nominal 140 MW pumping station would be required to lift water from UR-B to UR-A to support the full 10 hours of generation at peak load for the project. A second alternative configuration envisions a tunnel from UR-B to a flow control structure located on the tunnel from UR-A to the lower reservoir. This alternative would require upsizing the tunnel from the flow control structure to the lower reservoir to 35 feet in diameter.

In addition, the Applicant will evaluate alternatives for optimal staging of project implementation. For example, the development between UR-A and the lower reservoir could be implemented first, with all of the lower reservoir capacity constructed initially or with a later raise of the lower reservoir dam to increase storage capacity. The timing for implementation of the major project features will be dependent on demands for the energy storage and ancillary services afforded by the Project.

The Project as a Transmission Asset

The Commission has been active in promoting transmission solutions to allow variable energy resources to flourish in the coming decades. Recent studies of renewable generation indicate the need for storage and ancillary transmission services as essential elements in grid management for the integration of a high penetration of renewable resources. Large scale energy storage and ancillary transmission services allow renewable generation to be firmed within the framework of economic dispatch.

The Project's pumped-hydro features can provide specific transmission regulation operations – known collectively as “ancillary services” – including spinning reserve, non-spinning reserve, voltage and frequency regulation, load following, black-start capability, reactive support and possibly protection against over-generation. These services are consistent with the growing consensus among transmission providers and generators that adding significant storage and ancillary transmission services is a commercially feasible means to successfully integrate and reliably schedule wind and solar power to meet power generation goals, public policy goals and maintain reliable grid operations. As the Commission is well aware, large scale electric transmission service in the southwestern United States is the subject of a variety of ongoing planning efforts at the state, regional and federal levels. The Applicant is becoming an active stakeholder in these discussions.

Transmission solutions for the Project will be integrated with necessary local and regional network upgrades to achieve public policy and reliability goals. The ultimate transmission configuration will depend upon detailed static and dynamic

transmission studies made in conjunction with established North American Electric Reliability Corporation criteria and Large Generator Interconnection Procedures of affected utilities under Commission Order Nos. 888, 889, 890 and 1000.

The Applicant has identified initial possible options for transmission upgrades necessary to interconnect the Project.² Two double-circuit transmission lines rated at 500 kilovolts (kV) are under consideration for transmitting energy to and from the Project. The Applicant believes that two lines will ultimately be required to handle the full 2,000 MW output when all elements of the Project are energized and in-service. The Applicant has identified two potential transmission corridors originating at the Longview Energy Exchange 500 kV Switchyard:

1. A 500 kV line of approximately 38 miles in length traversing northerly to interconnect with the existing Arizona Public Service owned and operated Eldorado-Moenkopi 500 kV line or a planned and sited new Dine Navajo Transmission Project 500 kV line from Moenkopi to Marketplace. This transmission option would cross an APS 230 KV line near Interstate Highway 40 where a new substation may be installed. Additionally, there may be new transmission lines built north of the project area that would allow for a closer point of connection.
2. A 500 kV line of approximately 27 miles in length traversing southwesterly to interconnect with an existing Western Area Power Administration owned and operated 230 kV line from Prescott to Peacock to be upgraded where necessary to 500 kV.

² The Applicant expects that additional pathways will continue to be identified.

Transmission system improvements, accessible power markets, and ancillary services functions will continue to be investigated as part of the licensing process and studies pursued pursuant to this preliminary-permit. It is possible that alignments other than those identified here may be found to implement project purposes and to realize project goals. The Applicant is confident that the Project can provide system benefits to generators and Transmission Providers in the southwestern region of the Western Electric Coordinating Council integrated grid.

Project Physical Features

The Project will be located entirely off-stream. Neither the upper nor lower reservoirs intercept a perennial surface water course. Water to initially fill the reservoirs and required make-up water will be pumped from locally available groundwater resources. The Applicant has already conducted extensive studies of groundwater hydrology in the Project area. These studies will be refined as part of the studies undertaken pursuant to this permit. It is anticipated that seepage losses from the Project will remain entirely within the groundwater basin of origin. Seepage from the Project reservoirs will be minimized by lining of the reservoirs.

The Project reservoirs will be “closed loop”, meaning that water in the reservoirs will continuously re-circulate. In addition, because the project is remote from population centers, there will be reduced potential for human impacts or conflicts with multiple land uses.

The principal features of the Project will include the following:

- Upper Dam(s) and Reservoir(s)
- Lower Dam and Reservoir
- Inlet/Outlet (I/O) Structures

- Water Conveyance Tunnel
- Surge Control Facilities
- Surface Powerhouse
- Switchyard
- Transmission Line Interconnection
- Water Supply Facilities
- Access Roads

(1) A summary of the significant Project components is provided in Table 1, below:

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Table1: Estimated Data for the Longview Project

Project Feature	UR-A	UR-B
<u>Hydroelectric Plant</u>		
Nominal Capacity	1,000	1,000
Number of Units	3	3
Unit Rated Capacity	333 MW	333 MW
Plant Discharge	9,920 cfs	11,130 cfs
Pump/Turbine and Motor/Generator Unit Data		
Max. Static Head	1,533 ft	1,348 ft
Turbine Flow	3,307 cfs	3,710 cfs
Operating Speed	324	250
Generator Rating	370 MVA	370 MVA
<u>Tunnel</u>		
Diameter	25 ft	26.5 ft
Length	9,000 ft	17,500 ft
<u>Powerhouse</u>		
Height	150 ft	
Length	500 ft	
Width	100 ft	
<u>Upper Reservoir</u>		
Dam Type	Concrete-Faced Rockfill	Concrete-Faced Rockfill
Storage Volumes		
Total Reservoir Capacity	8,300 AF	9,300 AF
Inactive Storage	100 AF	100 AF
Active Storage	8,200 AF	9,200 AF
Operating Levels		
Minimum Operating Level	El. 6235	El. 6100
Maximum Operating Level	El. 6435	El. 6250
Water Surface Areas		
Max. Water Surface Area	67 ac	142 ac
Min. Surface Area	20 ac	25 ac
Dimensions of Dam		
Max. Dam Height	215 ft	166 ft
Top Width	30 ft	30 ft
Crest Length	6,630 ft	3,915 ft
<u>Lower Reservoir</u>		
Dam Type	Zoned Embankment	
Storage Volumes		

Table1: Estimated Data for the Longview Project	
Total Reservoir Capacity	17,500 AF
Inactive Storage	100 AF
Active Storage	17,400 AF
Operating Levels	
Minimum Operating Level	El. 4902
Maximum Operating Level	El. 4995
Water Surface Areas	
Max. Water Surface Area	175 ac
Min. Water Surface Area	115 ac
Dimensions of Dam	
Max. Dam Height	110 ft
Top Width	30 ft
Crest Length	7,500 ft

Upper Dams and Reservoirs

The dam for UR-A will be constructed of rockfill generated from the excavation required to create storage on the “hill-top” site. It will be a “ring dam” enclosing the entire reservoir. Seepage control will be provided by a reinforced concrete facing on the upstream slopes of the dams extending into the portion of the reservoir created from excavation. The reservoir bottom will be lined; decisions on the lining material will be made during the preliminary design studies. Foundation grouting may also be required to control seepage and the grout curtain would be advanced from the concrete plinth of the upstream concrete facing, located at the upstream toe of the dam. A dam drainage system will be provided under the upstream face, and it will be connected to a seepage collection and monitoring system along the downstream dam toe. A spillway will be provided at UR-A to handle the potential for over-pumping and surface water inflows design flood.

The dam for UR-B will be constructed of rock fill generated from on-site excavation, and potentially from excess materials generated at UR-A. Seepage control will be provided by a reinforced concrete facing on the upstream slopes of the dams extending into the portion of the reservoir created from excavation. Foundation grouting may also be required to control seepage and the grout curtain would be performed from the concrete plinth of the upstream concrete facing, located at the upstream toe of the dam. A dam drainage system will be provided under the upstream face and it will be connected to a seepage collection and monitoring system along the downstream dam toe. A spillway will be provided at UR-B to handle the potential for over-pumping and surface water inflows from a design flood.

Lower Dam and Reservoir

The lower reservoir dam will be constructed of locally available earth fill materials and will be a zoned embankment with a central impervious core. Reservoir lining is not planned at this time. Foundation grouting may also be required to control seepage and the grout curtain would be advanced from the keyway trench excavated for the dam core. Internal dam drainage will be provided with a chimney drain and downstream blanket drain connected to a seepage collection system at the downstream dam toe. A spillway will be provided to handle the inflow design flood from the small drainage basin upstream of the dam and reservoir.

Inlet/Outlet Structures

Inlet-outlet structures at UR-A and UR-B will be morning-glory type intakes at the deepest location at each reservoir. These structures will be reinforced concrete

and will be equipped with appropriately-sized trash racks. Debris accumulation and sedimentation are not expected to be issues at the upper reservoirs.

Water Conductors

Water conductors will be concrete-lined pressure tunnels with diameters as shown in Table 1. Near the powerhouse, the tunnels will transition through a steel-lined manifold and then into three penstocks serving the pump-turbine units associated with each of the two upper reservoirs (at full build-out). The penstocks will be 12.5-foot-diameter steel conduits.

Surge Control Facilities

Surge control facilities will be required based on the results of hydraulic transient studies that will be performed during the feasibility-level design phase. Preliminary design of these facilities will be developed during the development of a license application after preliminary hydraulic transient analyses are prepared.

Powerhouse

The powerhouse will be located just upstream of the lower reservoir. It will be a surface powerhouse constructed in an excavation between the downstream tunnel portals and the lower reservoir. Nominal dimensions are 500-ft in length by 100-ft in width and 150-ft in height. At full build-out, the powerhouse will contain 6 units, three operating on each upper reservoir. One erection and service bay will be provided along with bridge cranes for the turbine generator units and transformers and gantry cranes for the draft tube gates. The powerhouse substructure and superstructure will be constructed of cast-in-place reinforced concrete. The pump/turbine spiral cases will be permanently embedded in second-stage concrete.

Floors will be supported with concrete walls and columns. Walls will also serve to partition areas. Substructure and superstructure configurations will be dictated by final mechanical and electrical equipment arrangements. The transformer room, located downstream from the powerhouse, will be located above the tailrace draft tubes.

Switchyard

A switchyard will be located near the powerhouse, with its final location to be determined based on site investigations.

Transmission Interconnection and Service Power

Transmission, interconnection and service power will be supplied to and delivered from the Project by two double circuit 500 kV transmission lines. The Applicant has identified two potential transmission routes originating at the Longview Energy Exchange 500 kV Switchyard:

1. A 500 kV line of approximately 38 miles in length traversing northerly to interconnect with the existing Arizona Public Service owned and operated Eldorado-Moenkopi 500 kV line or a planned and sited new Dine Navajo Transmission Project 500 kV line from Moenkopi to Marketplace. This transmission option would cross an APS 230 KV line near Interstate Highway 40 where a new substation may be installed. Additionally, there may be new transmission lines built north of the project area that would allow for a closer point of connection.

2. A 500 kV line of approximately 27 miles in length traversing southwesterly to interconnect with an existing Western Area Power Administration owned and operated 230 kV line from Prescott to Peacock to be upgraded to 500 kV.

Water Supply Facilities

Water to initially fill the reservoirs and annual make-up water will be pumped from groundwater on adjacent land currently owned by an entity with which Applicant entered into purchase negotiations. Water to replace losses due to seepage and evaporation will be obtained from the same source of supply.

(2) Preliminary information for the proposed Project reservoirs is as follows:

Parameter	Upper Reservoir A	Upper Reservoir B	Lower Reservoir
Maximum Normal Pool			
Water Surface El. (ft, msl)	6435	6250	4995
Storage (acre-feet)	8,300	9,300	17,500
Surface Area (acres)	67	142	175
Minimum Normal Pool			
Water Surface El. (ft, msl)	6235	6100	4902
Storage (acre-feet)	100	100	100
Surface Area (acres)	20	25	115

(3) The following table summarizes the various transmission components of the Project.

Summary of Proposed Transmission Line Project Components
<p>Proposed Route and Right-of-Way</p> <ul style="list-style-type: none"> • Transmission Line Length: Various, depending on alignments. Line lengths will be approximately 27 to 38 miles. • Connection Point: A new substation/switchyard near the Project hydroelectric power plant. <p>Connection Points: New substation on the existing 500 kV APS corridor north of the Project; at a new substation west and south of the Project on a 230 kV WAPA line to be upgraded to 500 kV; or at a new substation interconnecting with two Navajo Southern Transmission 500 kV lines owned by Navajo generating plant participants, and operated by APS. This transmission option would cross an APS 230 KV line near Interstate Highway 40 where a new substation may be installed. Additionally, there may be new transmission lines built north of the project area that would allow for a closer point of connection.</p> <ul style="list-style-type: none"> • Right-of-Way Width: 200 to 500 feet. The right-of-way width would be reduced in specific locations to mitigate potential impacts to resources (e.g., historic trails, adjacent land restrictions, existing roads and highways, and biological and cultural resources). • Total Right-of-Way Acreage: approximately 2500 acres (does not include construction access roads).
<p>Transmission Line Facilities (500 kV, single circuit)</p> <ul style="list-style-type: none"> • Conductors: Three-phase AC Circuit of 1.5 to 2-inch ACSR conductors per phase • Minimum Conductor Distance from Ground: 35 feet at 60 degrees F. • Shield Wires: Two 0.5 to 0.75-inch-diameter wires for steel lattice. • Transmission Line Tower Types: Steel lattice with heights of 100 to 180 feet. • Average Distance between Towers: Steel Lattice Towers approximate spacing of 2000 feet* • Total Number of Towers (approximate): 70 to 100
<p>Substation Facilities</p> <ul style="list-style-type: none"> • Two new substations at transmission interconnections. • New substation/switchyard at power plant site.
<p>Communications Facilities</p> <ul style="list-style-type: none"> • Systems: Digital Radio System, microwave, VHF/UHF radio, fiber optics. • Functions: Communications for fault detection, line protection, SCADA, voice communications, data communications, etc.

*The exact quantity and placement of the structures depends on the final detailed design of the transmission line, which is influenced by the terrain, land use, and economics. Alignment options may also slightly increase or decrease quantity of structures.

(4) The powerhouse will contain six units. Preliminary unit sizing has been based on typical performance characteristics obtained from information published by the United States Corps of Engineers and United States Bureau of Reclamation, as

well as in the experience of Project engineers. The Project size (2,000 MW nameplate generating capacity) was selected based on the available head and considerations regarding the maximum storage potentials in the upper reservoirs. Ongoing market studies will establish the final installed capacity.

The desired hydraulic capacity and rated capacity of the pump-turbine and the motor-generator will be selected during the technical feasibility studies undertaken to support the license application. Refinements will be made during final design and when specific manufacturers' information and data about the equipment are obtained. Average annual on-peak generation will be 35,040 GWh, assuming an average net capacity factor of 20 percent.

(5) Form FERC-587 is not included in this application because there are no lands of the United States enclosed within the proposed Project boundary which is shown on Figure 4.

(6) The Project will be designed to be operated as a transmission asset as well as for generation. The Project will conserve (store) off-peak energy for meeting peak demands in the region. The Project also will provide load-following, voltage regulation and other ancillary transmission services. The Project will produce electric generation utilizing a closed-loop method of water regulation. Therefore, the Project will develop, conserve and utilize in the public interest the water resources of the region.

(7) The Applicant anticipates completing detailed environmental, ecological, engineering, geological, transmission-related, cultural and land use studies necessary to move forward in the licensing process. The information supplied in this Preliminary Permit, as is typical of such filings, is indicative of the research performed to date and is subject to reasonable change as studies and analyses progress.

[Remainder of page intentionally left blank]

Exhibit 2 - Longview Energy Exchange Pumped Storage Hydroelectric Project

(1) General Study Plan

- (i) Studies, Investigations, Tests or Surveys (including location of any field study, test or other activity that may alter or disturb lands or waters in the vicinity of the Project).

The proposed Project reservoirs and powerhouse will be constructed on lands currently in private ownership or upon lands owned by non-Federal public entities. Associated rights-of-way may be negotiated through lands owned by the Arizona State Land Department (“ASLD”). The mineral estate underlying the Project Boundary may be owned privately, by the ASLD or may be reserved in part by other entities.

Engineering Feasibility

Engineering feasibility studies will be completed to document technical feasibility of the Project and to finalize cost estimates of the Project. Studies of the demand for peaking power and the markets for both pumping energy and on-peak generation have been conducted at a reconnaissance level and will be continue to be conducted as part of the license application process. These studies and participation in relevant resource planning processes may result in changes to the number and sizes of the pump-turbine units, the amount of energy storage, the operating modes, or any other aspect of the Project.

Geology

Geologic mapping will be prepared and a subsurface investigation program (addressing geomorphology and title matters) will be developed and executed to

obtain information for feasibility-level designs of the major project features. This geologic information will be included in License Application Exhibit F -- Supporting Design Report. Seismic analysis, including calculations of peak ground acceleration (PGA), will be prepared using applicable attenuation relationships. The updated evaluation of site seismicity will be performed during the license application process. An erosion control plan will be prepared prior to commencement of ground disturbing activities.

Water Supply

The source of water supply for the project will be locally available groundwater resources with rights of use owned or acquired by the Applicant. Applicant has performed extensive groundwater resource studies underlying property within a portion of the Project Boundary.

Water Quality

The potential impacts of the project on water quality will be assessed. This will include current and ongoing assessments of current ground-water quality in the project area and the anticipated quality characteristics of the impounded water in the two reservoirs that will be constructed.

Wildlife and Botanical Resources

Surveys will be conducted as follows:

- Identify aquatic habitats, (wetlands, seeps and springs and other water sources, both artificial and natural), that might be affected by the Project. For each wetland, seep or spring, the Applicant will estimate the condition and size, current use by flora and fauna, potential Project impacts, and options for mitigation of impacts.

- Conduct habitat analysis on the Project, especially in the area of the pipelines and in the central Project area.
- Identify any issues involving species of concern, indicator species and threatened or endangered species in the Project area.
- In addition, it will be necessary to identify new construction and operational details that may affect biological resources, including, but not limited to scheduling, work force, length of construction, and other Project details.

Rare, threatened, and endangered species

The site and immediately surrounding area will be assessed to determine the presence of special-status species and potential impacts to individuals and populations both on the Project and in the affected surrounding area. This process will include:

- Reconnaissance surveys to determine the presence of habitat for relevant species and determine the extent of that habitat
- Protocol-level surveys for those species for which survey protocols exist
- Focused surveys in potential onsite habitat for other special-status species
- Focused surveys in areas adjacent to the Project for special-status species that might be affected by Project-associated activities

In addition, it will be necessary to:

- Identify existing and potential threats to special-status species.
- Identify new construction and operations details that may affect biological resources, including, but not limited to scheduling, work force, length of construction, and other Project details.
- Examine relevant papers and reports and new information that has been unavailable to date.

Recreation

A recreation plan, detailing facilities, locations, operation, and maintenance will be developed as part of the license application development. Recreational resources may be limited due to the pumped-storage nature of the Project.

Aesthetic Resources

As part of the licensing process, the Applicant will conduct a visual resource survey in a cooperative effort with appropriate resource agencies.

Cultural Resources

A cultural resource inventory of the Project area and transmission routes will be completed to understand historic and prehistoric cultural resources, particularly within un-surveyed sections of the proposed Project and transmission route. Cultural resource inventories of previously unsurveyed locations will be completed by a qualified cultural resource consultant. A Historic Properties Management Plan also will be prepared for the Project that will identify appropriate measures of protection for identified cultural resources.

Socio-economic Resources

During the licensing process, the ability of area communities to absorb the temporary construction workforce will be investigated including the resultant effects of the proposed Project for accommodating the work force.

Tribal Resources

As part of the licensing process, the Applicant will continue to coordinate with the State Historic Preservation Office and Tribal Historic Preservation Officers in accordance with requirements of Section 106 of the National Historic Preservation Act. As details of the Project, and particularly the final transmission alignment and site design, become available the Applicant will define an Area of Potential Effect in consultation with local Tribes and Tribal Historic Preservation Officers (THPOs), as well as the SHPO.

Qualified cultural resource consultants will work to identify locations requiring additional surveys. Results of surveys will be documented and reviewed with appropriate stakeholders. An Historic Properties Management Plan will be prepared for the Project that will identify appropriate measures of protection for identified cultural resource sites, including management and protection of Native American values.

Wetlands

As noted in Exhibit 1, embankment dams are planned for construction to create the upper and lower reservoirs to provide the needed energy storage. Applicant believes that there are no navigable waters or jurisdictional wetlands at the locations proposed for the two reservoirs. In the event that wetlands are encountered at these locations, care will be taken during field explorations to avoid impacts during drilling, test pit excavations and other pre-construction activities. Any long-term wetland impacts associated with dam construction, or construction of other Project works, will be mitigated using procedures acceptable to resource agencies. The extent of the drilling and testing program for design of the Project has not been determined at this time.

(ii) Access

There are existing public and private roads that provide access to the Project site from I-40 and other major roads. On the CF Ranch property and neighboring ranches, there are access roads that were constructed to support ranching operations. These existing roads will be used to the maximum possible extent for construction

and operation of the Project. Most likely, Project implementation will require construction of temporary and permanent access roads. These will be paved and unpaved roads constructed for low-speed traffic. At the present time, it is anticipated that no new roads will be required to conduct any of the proposed studies.

(2) Work Plan for New Dam Construction

(i) Field Studies. The dam, reservoir and tunnel locations will be investigated by borehole drilling, test pits, sampling and in-situ and laboratory testing. Measures will be taken to avoid or minimize disturbance at the drill sites. There will be no investigations in wetland areas or navigable streams. The locations and timing of such investigations have yet to be determined; however, the drilling will be conducted within the identified facility footprints.

(ii) It is the intent of the applicant to file a PAD/NOI during the 3 year duration of the permit. The Applicant will then follow the ILP schedule for studies, unless the Applicant elects to request the Traditional Licensing Process, and the TLP request is granted by the Commission. Years 1 and 2 will likely include additional field reconnaissance and project definition and configuration studies. Year 3 will likely include planning and scoping of studies to be performed in the licensing phase and preparation of the PAD and NOI.

(3) Costs of the Project

(i) Applicant anticipates that the costs associated with performing the studies will be approximately \$5,000,000. This includes the PAD, NOI, and preparation of the draft and final license applications, as well as agency

consultations, conduct of the field and office engineering and environmental studies.

(ii) The Applicant is Longview Energy Exchange, LLC. Financing to conduct the studies, investigations, tests, and related activities, during the term of the Preliminary Permit, will come from company assets. Power generated by the Project will be marketed and sold to utilities, municipalities or other bulk electric consumers.

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Exhibit 3 - Longview Energy Exchange Pumped Storage Hydroelectric Project

Exhibit 3 comprises the following maps depicting the general Project configuration, and the proposed Project boundary.

- Figure 3-1: Project location Map
- Figures 3-2: Major Proposed Project features
- Figures 3-3: Project Plan
- Figures 3-4: Proposed Project Boundary, with general directions for proposed transmission lines.

There are no areas within or in the vicinity of the proposed Project boundary which are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System. No wilderness areas have been designated or recommended for designation within the Project boundary. There are no Federal surface lands included in the Project boundary.

***Exhibit 4 - Longview Energy Exchange Pumped Storage
Hydroelectric Project***

Form FERC 587

Form FERC-587 would normally be Exhibit 4 in an application of this type. There are no surface lands of the United States enclosed within the proposed Project boundary. As a result, form FERC-587 has not been provided.

Respectfully submitted this 3rd day of January, 2012.

DIETZE AND DAVIS, P.C.



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