# May 21, 2019 Regular Meeting Item # 7a

# Community Development

Application - First and Second Amendments, Amended letter for second amendment, public comments



355 South Lemon Ave, Suite A Walnut, CA 91789 (909) 595-5314 Phone (909) 595-5394 Fax

May 13, 2019

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

Re:

Premium Energy Holdings' Amendment of the Application for Preliminary Permit for the Owens Valley Pumped Storage Project, FERC Project No. P-14984-000

#### Dear Secretary Bose:

Pursuant to 18 C.F.R. §§ 4.82 of the Federal Energy Regulatory Commission's ("FERC") regulations, enclosed for filing is Premium Energy Holdings, LLC's ("Premium Energy") Amendment to its Application for Preliminary Permit for the Owens Valley Pumped Storage Project under P-14984-000. This amendment reflects the following changes:

(1) Use of underground pressure tunnels and cave-type powerhouses in lieu of exposed penstocks and above-ground powerhouses.

The required amendment in the application is requested in order to avoid a potential land use conflict as well as environmental and landscape disturbances. If you have any questions or require additional information regarding this submittal, please contact me at (909) 595-5314 or email me at victor.rojas@pehllc.net.

Sincerely,

Victor M. Rojas

Managing Director at Premium Energy Holdings, LLC

Enclosures

cc:

# BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

# AMENDED APPLICATION FOR PRELIMINARY PERMIT FOR THE OWENS VALLEY PUMPED STORAGE PROJECT

FERC Project No. P-14984-000

Prepared by

**Premium Energy Holdings, LLC** 

May 13, 2019

#### **TABLE OF CONTENTS**

INITIAL STATEMENT	. 1
VERIFICATION STATEMENT	6
EXHIBIT 1 – DESCRIPTION OF THE PROPOSED PROJECT	7
EXHIBIT 2 – DESCRIPTION OF THE PROPOSED STUDIES	19
EXHIBIT 3 – OWENS VALLEY PUMPED STORAGE PROJECT MAP	22

#### **INITIAL STATEMENT**

#### **BEFORE THE** FEDERAL ENERGY REGULATORY COMMISSION

#### **Amended Application for Preliminary Permit**

#### for the Owens Valley Pumped Storage Project

Premium Energy Holdings, LLC ("Premium Energy"), a California based limited liability corporation, applies to the Federal Energy Regulatory Commission for a preliminary permit for the Owens Valley Pumped Storage 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.

1. The location of the proposed project is:

> State or territory: California

Counties: Mono County and Inyo County

Bishop, Swall Meadows, Round Valley Township or nearby town:

Rock Creek, Owens River Streams:

2. The exact name, business address, and telephone number of the applicant are:

> Premium Energy Holdings, LLC 355 South Lemon Ave. Suite A Walnut, CA 91789

Telephone: (909) 595-5314

The name, business address, and telephone number of the persons authorized to 3. act as agent for the applicant in this application are:

Victor M. Rojas

Managing Director at Premium Energy Holdings, LLC

355 South Lemon Ave, Suite A

Walnut, CA 91789

Telephone: (909) 595-5314

Email: victor.rojas@pehllc.net

Maria Hernandez

Project Manager at Premium Energy Holdings, LLC

355 South Lemon Ave. Suite A

Walnut, CA 91789

Telephone: (909) 595-5314

Email: maria.hernandez@pehllc.net

- 4. Preference under Section 7(a) of the Federal Power Act
- 5. Premium Energy is a corporation operating in California and is not claiming preference under section 7(a) of the Federal Power Act. Premium Energy's business primarily involves the retrofit and modernization of pumping plants, transmission planning and design, power system studies, testing and commissioning of power plants and substations.
- 6. Term of Permit:

The proposed term of the requested permit is twenty-four (24) months.

7. Existing Dams or Other Project Facilities:

The proposed project would make use of the waters within the Owens Lake Watershed, specifically the Lower Rock Creek water and the Owens River Gorge water. However, once the proposed reservoirs are filled, the proposed project will operate in a closed loop and will not divert water from the existing streams. No existing dams or other project facilities will be part of the Owens Valley Pumped Storage Project.

#### ADDITIONAL INFORMATION REQUIRED BY 18 C.F.R. § 4.32(a)

1. Identification of persons, associations, domestic corporations, municipalities, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project:

Premium Energy Holdings, LLC 355 South Lemon Ave, Suite A Walnut, CA 91789

Telephone: (909) 595-5314

- 2. Identify (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.

Mono County, California Board of Supervisors 278 Main Street BridgePort, CA 93517 Telephone: (866) 745-9719

Inyo County, California Board of Supervisors 224 N Edwards Street Independence, CA 93526 Telephone: (760) 878-0373

- 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:

None.

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

None.

- 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:

Los Angeles Department of Water and Power 111 N Hope Street Los Angeles, CA 90012 Telephone: (800) 499-8840 (B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

None.

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; and interest:

California Department of Water Resources P.O. Box 942836 1416 9th Street Sacramento, CA 95814

State Water Resources Control Board 1001 I Street P.O. Box 100 Sacramento, CA 95814

California Department of Fish and Game Inland Deserts Region 3602 Inland Empire Boulevard Suite C-220 Ontario, CA 91764

Inyo County Water Department P.O. Box 337 135 South Jackson St. Independence, CA 93526

v. All Indian tribes that may be affected by the project:

Chairperson Bishop Paiute Tribe of the Owens Valley 50 Tu Su Lane Bishop, CA 93514 Telephone: (760) 873-3584

Chairperson
Big Pine Paiute Tribe of the Owens Valley
P.O. Box 700
Big Pine, CA 93513
Telephone: (760) 938-2003

Chairperson Lone Pine Paiute Shoshone Reservation P.O. Box 747 Lone Pine, CA 93545 Telephone: (760) 8761034

Chairperson Fort Independence Reservation P.O. Box 67 Independence, CA 93526 Telephone: (760) 878-5160

#### VERIFICATION STATEMENT

This application for a preliminary permit for the proposed Owens Valley Pumped Storage Project is executed in the state of California, county of Los Angeles.

By: Victor M. Rojas Premium Energy Holdings, LLC 355 South Lemon Ave, Suite A Walnut, CA 91789

Being duly sworn, deposes, and says that the contents of this application for a preliminary permit are true to the best of his knowledge or belief. The undersigned applicant has signed the application on this 13<sup>th</sup> day of May of 2019.

Victor M. Rojas

Managing Director at Premium Energy Holdings, LLC

Subscribed and sworn before me, a Notary Public of the State of California, County of Los Angeles, this day of 13th of May, 2019.

**NOTARY PUBLIC** 

MARIA A. HERNANDEZ
COMM. #2247108
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
My Comm. Exp. Jun. 22, 2022

#### EXHIBIT 1 – DESCRIPTION OF THE PROPOSED PROJECT

#### 1. GENERAL CONFIGURATION

The proposed Owens Valley Pumped Storage Project would be located 15 miles away from Bishop, California. Its facilities would be between the Mono County and Inyo County. Communities within the project's influence area include Swall Meadows, Paradise, Round Valley, Mesa, Rovana, Forty Acres, Sunny Slopes, Tom's Place, Aspen Springs and Crowley Lake.

The project concept envisions the construction of three pumped storage generating facilities. The project would be constructed in three successive stages for each pumped storage facility. The project's stage 1 would introduce an 800 MW pumped storage power plant. Succeeding the completion of stage 1, a second 2,000 MW pumped storage power plant would be constructed during the project's stage 2. Finally, the project's stage 3 proposes the construction of a third pumped storage power plant rated at 2,400 MW.

The three power plants would operate as closed loop hydro-power pumped storage plants. The project's operation would not alter the existing streaming beds. Once the proposed reservoirs are filled with enough stored water for project operation, water will not be diverted from the upstream Lake Crowley, Owens River, or Rock Creek.

The projects power plants are proposed to be cavern-type powerhouses located underground. The powerhouses would be located about half mile from the proposed lower reservoirs shore. Each underground powerhouse would have an access tunnel, and would be connected to a headrace pressure tunnel, and a tailrace pressure tunnel. Hence, the project's main features will be located underground and will not alter the existing landscape, thus reducing environmental disturbances. Aside from the proposed reservoirs and electrical transmission, the project's facilities will be out of public sight.

The three pumped storage power plants would use new reservoirs in the Wheeler Ridge of the Sierra Nevada as upper reservoirs. The project's lower reservoirs would be created in either the Lower Rock Creek Gorge or the Owens River Gorge. Each of the project's new reservoirs would require the construction of a new embankment for them to be filled and interconnecting hydraulic pressure tunnels. The embankments for the project's proposed reservoirs would consist of roller compacted concrete dams. Conceptual dimensions for the project's dams and tunnels are detailed in tables 1 and 2, respectively.

Each of the project's stages will require the construction of the new upper and lower reservoirs, pressure tunnels, generating/pumping powerhouses, electrical switchyards, and interconnecting transmission lines. The final combined pumped storage power plants would deliver a total of 5,200 MW through 500 kV transmission lines. The project's transmission lines would interconnect with Los Angeles Department of Water and Power (LADWP) or Southern California Edison's (SCE) transmission system to facilitate the pumped storage operation. Upgrades to existing transmission lines and substations would be necessary to deliver the electrical power to the existing high-voltage regional transmission system.

Table 1. New Reservoirs' Embankment Dimensions

Description	Reservoir	Dam Crest Elev. [ft]	Dam Height [ft]	Dam Length at Crest [ft]
r irs	Wheeler Ridge Reservoir 1	10,915	360	1,348
Upper Reservoirs	Wheeler Ridge Reservoir 2	11,165	260	1,264
Re	Wheeler Ridge Reservoir 3	10,935	195	1,012
r irs ive	Lower Rock Creek Reservoir 1	5,265	225	986
Lower eservoirs lternative	Lower Rock Creek Reservoir 2	5,575	315	910
I Ree Alt	Lower Rock Creek Reservoir 3	5,865	295	720
r irs ive	Owens River Gorge Reservoir 1	4,735	180	485
Lower servoii ernativ	Owens River Gorge Reservoir 2	5,840	400	749
I Reg Alt	Owens River Gorge Reservoir 3	6,335	255	796

Table 2. Pressure Tunnels Dimensions

	Upper Reservoir	Lower Reservoir	Head [ft]	Tunnel Diameter [ft]	Tunnel Length [mi]
rvoirs e 1	Wheeler Ridge Reservoir 1	Lower Rock Creek Reservoir 1	5,650	16	4.8
Lower Reservoirs Alternative 1	Wheeler Ridge Reservoir 2	Lower Rock Creek Reservoir 2	5,600	25	5.2
Lower	Wheeler Ridge Reservoir 3	Lower Rock Creek Reservoir 3	5,070	28	4.3
rvoirs e 2	Wheeler Ridge Reservoir 1	Owens River Gorge Reservoir 1	6,180	15	7.7
ower Reservoirs Alternative 2	Wheeler Ridge Reservoir 2	Owens River Gorge Reservoir 2	5,400	25	6.9
Lowe	Wheeler Ridge Reservoir 3	Owens River Gorge Reservoir 3	4,600	30	6.4

#### 2. RESERVOIRS

The upper and lower reservoirs configuration is to be the best suited to maximize the available hydraulic head, as well as minimize the pressure tunnels layout within environmental constraints. The proposed reservoir sites within this application are the result of conceptual engineering completed by Premium Energy and its consultants. During the term of the preliminary permit, Premium Energy will further investigate on the new reservoirs configuration and select the best suited location for energy, economic and environmental considerations.

The project concept includes a new Wheeler Ridge reservoir serving as upper reservoir for each of the three pumped storage power plants. A new reservoir in the Lower Rock Creek Gorge or the Owens River Gorge will serve as the lower reservoir for each pumped storage power plant. A hydraulic head of up to 6,200 ft would exist between the new reservoirs, which would be exploited for hydro power generation.

#### A. Upper Reservoirs Configuration

The project's three pumped storage power plants will employ new reservoirs in the Wheeler Ridge of the Sierra Nevada as upper reservoirs. The new Wheeler Ridge reservoirs' physical characteristics are detailed in table 3.

Table 3. Upper Reservoirs Characteristics

Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
Wheeler Ridge Reservoir 1	40	2,525	10,900
Wheeler Ridge Reservoir 2	49	5,720	11,150
Wheeler Ridge Reservoir 3	125	7,470	10,920

To enable pumped storage operation, the new reservoirs will have intake-outlet structures with a submerged intake elevation at an adequate height. Below this elevation, a permanent reserve of water will remain in the reservoirs. From the intake-outlet structures, the head race pressure tunnels will unfold to connect the new Wheeler Ridge reservoirs to the powerhouses located underground near the new Lower Rock Creek reservoirs or the new Owens River Gorge reservoir.

The new Wheeler Ridge reservoirs site naturally discharges runoff to streams reaching the Lower Rock Creek. During high water level season, excess water in the new reservoirs would be discharged to the Lower Rock Creek. Rock Creek is a tributary stream to the Owens River, joining the river upstream Pleasant Valley Reservoir.

#### B. Lower Reservoirs Configuration

The project proposes two lower reservoir alternatives. Alternative 1 proposes the new lower reservoirs to be created in the Lower Rock Creek Gorge, while alternative 2 depicts them in the Owens River Gorge. The new lower reservoirs physical characteristics for alternative 1 and alternative 2, are detailed in tables 4 and 5.

Furthermore, if the reservoirs are created in the Lower Rock Creek, a new water conveyance tunnel will be required to connect the Owens River to the Lower Rock Creek Gorge. This water tunnel will serve the purpose of filling the new lower reservoirs. After the proposed reservoirs are filled, the water conveyance tunnel will be out of service.

The Owens River currently supplies water for the L.A. Aqueduct System, which delivers water from the Owens River to Los Angeles. However, the project's pumped storage power plants will operate in a closed loop. Therefore, operation will reuse the water in a cyclic manner and will not divert water from the upstream water sources. The project's new reservoirs will provide enough water storage capacity for approximately ten to twelve hours of continuous output.

Table 4. Lower Reservoirs Alternative 1 Characteristics

Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
Lower Rock Creek Reservoir 1	34	2,650	5,250
Lower Rock Creek Reservoir 2	50	5,220	5,560
Lower Rock Creek Reservoir 3	72	7,240	5,850

Table 5. Lower Reservoirs Alternative 2 Characteristics

Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
Owens River Gorge Reservoir 1	55	2,450	4,720
Owens River Gorge Reservoir 2	50	5,170	5,825
Owens River Gorge Reservoir 3	80	6,860	6,320

#### 3. TRANSMISSION LINES

The Project proposes three interconnection alternatives with the regional electric utility network:

- Transmission alternative 1 interconnects the project to LADWP's Control Gorge Substation. The power is then transmitted through upgraded LADWP's 500 kV AC transmission lines to a new Sylmar Converter Station AC Switchyard.
- Transmission alternative 2 will deliver the power to Sylmar Converter Station making use of a segment of the existing PDCI. This alternative will require the construction of a new converter station near Pleasant Valley Reservoir and a new converter station in a rebuilt Sylmar Converter Station West.
- A third transmission alternative follows the same configuration of transmission alternative 2, except it will not make use of the PDCI corridor. Instead, this alternative will employ underground HVDC cables going through the L.A. Aqueduct corridor.

In order to harness and store excess renewable energy, the project proposes interconnection with Southern California Edison's (SCE) wind power Windhub

Substation for all transmission alternatives. Transmission alternative 1 would require a new 500 kV mid-point substation to interconnect with SCE's Windhub substation. On the other hand, a new converter station near Windhub Substation would be required for transmission alternatives 2 and 3. This new converter station would allow for the transmission of HVDC electrical power for the project's operation.

Further studies of the project's transmission lines location, voltage, number of circuits, and interconnection alternatives will be carried out during the term of this preliminary permit, to select the most preferable alternative. The interconnection voltage may be 230 or 500 kV, depending upon the results of studies to be carried out. In case the project uses 500 kV transmission lines, the upgrade of subsequent transmission lines and involved substations will be necessary.

#### 4. PROJECT CAPACITY

The project is proposed to store excess renewable energy, helping to integrate renewables onto the grid, and to supply firm base and peaking power generation with primary load following capability. Based on preliminary analysis, the planned total installed capacity of the three pumped storage power plants would be 5,200 MW. However, the project's rating may change as studies proceed. Premium Energy also plans to conduct transmission system studies and power market investigations to help further refine the range of suitable generation capabilities.

Assuming a plant capacity factor of 40%, the Owens Valley Pumped Storage Plant #1, rated at 800 MW, will produce a total of 2,760 GWh of annual energy production. The Owens Valley Pumped Storage Plant #2, rated at 2,000 MW, will have an annual energy production of 6,910 GWh. Finally, the Owens Valley Pumped Storage Plant #3 with a rating of 2,400 MW, will have an 8,290 GWh annual energy production. The three closed-loop pumped-storage power plants involved in this project would have a total combined annual energy production of 17,960 GWh.

On a preliminary basis, the maximum gross head may be up to 6,200 feet depending on the reservoirs' location. At the present time, the project concept envisions procurement of two new pump-turbine generator-motor sets for the first pumped storage power plant. Five new units will be required for the second pumped storage power plant, and six new units for the third pumped storage power plant. Each unit would have a nominal rating at 400 MW.

#### 5. FEDERAL LANDS

The project study boundary, as shown on Exhibit 3, encompasses part of the Inyo National Forest, the Bureau of Land Management California lands and City land belonging to Los Angeles Department of Water and Power (LADWP).

The project's new Wheeler Ridge reservoirs would be in part of the Inyo National Forest, managed by the U.S. Forest Service. The proposed hydro power pressure tunnels would go through part of the Inyo National Forest and the Bureau of Land Management lands. The new Lower Rock Creek reservoirs 1 and 2 of alternative 1 would be in Bureau

of Land Management lands, while the new Lower Rock Creek reservoir 3 would occupy part of the Inyo National Forest. The Owens River Gorge, where alternative 2's new lower reservoirs would be created, is currently owned by LADWP.

The interconnection of the project will require new transmission lines in the Owens Valley to interconnect the project's power plants to either the Control Gorge Substation or a new converter station south of Pleasant Valley reservoir. This new transmission corridor will occupy the Bureau of Land Management lands. After this new transmission lines, the subsequent existing transmission lines and substations that will be upgraded are Los Angeles Department of Water and Power lands. These lands correspond to either the subsequent 230 kV AC transmission lines corridor, the PDCI corridor, or the L.A. Aqueduct corridor; for transmission alternatives 1, 2, and 3, respectively.

#### LAND DESCRIPTION

# Public Land States (Rectangular Survey System Lands)

1. STATE	STATE CALIFORNIA 2. FERC PROJECT NO. Not applicable				Not applicable
3. TOWNSHIP	48	RANGE	30E	MERIDIAN	Mount Diablo
4. Check	one:			Check one:	
	cense eliminary Permit			Pending Issued	
If preliminary perm	nit is issued, give ex				_
Section 6	5. EXH	IBIT SHEET N	UMBERS OR 3	LETTERS 2	1
Section 6	3	4	3	2	'
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	<b>22</b> Exhibit 3	Exhibit 3	24 Exhibit 3
30	29	28	27	26 Exhibit 3	25 Exhibit 3
31	32	33	34	35 Exhibit 3	36 Exhibit 3
Telephone no	ne <u>Victor M.</u> . ( 909-595-5314 d <u>May 13, 2</u>	· <u>)</u>			
Zato odbinitto			_		

#### LAND DESCRIPTION

# Public Land States (Rectangular Survey System Lands)

1. STATE	CALIFORNIA		2. FERC F	PROJECT NO. No. No. No.	ot applicable
3. TOWNSHIP	4S	RANGE	31E	_ MERIDIAN _ N	Mount Diablo
4. Check	one:		С	heck one:	
	ense eliminary Permit		_	Pending Issued	
If preliminary perm	nit is issued, give ex	piration date:	Not app	licable	
		BIT SHEET NUI			
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 Exhibit 3	32	33	34	35	36
Telephone no.	e <u>Victor M. I</u>		-		
Date submitte	d <u>May 13, 20</u>	)19			

#### LAND DESCRIPTION

# Public Land States (Rectangular Survey System Lands)

1. STATE	CALIFORN	IA	2. FER	C PROJECT NO.	Not applicable
3. TOWNSHIP _	5S	RANG	E 30E	MERIDIAN	I Mount Diablo
4. Chec	k one:			Check one:	
	License Preliminary Perm	nit		Pending Issued	
If preliminary per	rmit is issued, giv	ve expiration date	e: Not a	applicable	_
		EXHIBIT SHEET			
Section 6	5	4	3	Exhibit 3	Exhibit 3
7	8	9	<b>10</b> Exhibit 3	Exhibit 3	12
18	17	(16	15 Exhibit 3	Exhibit 3	13 Exhibit 3
19	20	<b>21</b> Exhibit 3	<b>22</b> Exhibit 3	23 Exhibit 3	<b>24</b> Exhibit 3
30	29	28 Exhibit 3	27 Exhibit 3	26 Exhibit 3	25 Exhibit 3
31	32	33 Exhibit 3	34 Exhibit 3	35 Exhibit 3	36 Exhibit 3
•	o. <u>(                                    </u>	<u>5314 )</u>	<del></del>		
Date Submit	ted <u>May 1</u>	3, 2019			

#### LAND DESCRIPTION

# Public Land States (Rectangular Survey System Lands)

1. STATE	CALIFORN	IA	2. FER	C PROJECT NO.	Not applicable
3. TOWNSHIP _	58	RANG	E 31E	MERIDIAN	I Mount Diablo
4. Chec	ck one:			Check one:	
	License Preliminary Perm	nit		Pending Issued	
If preliminary pe	rmit is issued, giv	e expiration date	e: Not a	applicable	_
0 11 0		EXHIBIT SHEET			
Section 6 Exhibit 3	5	4	3	2	1
7	8 Exhibit 3	9 Exhibit 3	10	11	12
Exhibit 3	Exhibit 3	16 Exhibit 3	15	14	13
19 Exhibit 3	20 Exhibit 3	21	22	23	24
30 Exhibit 3	<b>29</b> Exhibit 3	28	27	26	25
31 Exhibit 3	32	33	34 Exhibit 3	35	36
6. Contact's na	ıme Victor	<sup>-</sup> M. Rojas			
Telephone n	no. <u>( 909-595-5</u>	<u>5314 )</u>			
Date submit	ted <u>May 1</u>	3, 2019	<del>_</del> _		

1. STATE CALIFORNIA

Form FERC-587 OMB No. 1902-0145 (Expires 10/31/2018)

2. FERC PROJECT NO. Not applicable

#### LAND DESCRIPTION

# Public Land States (Rectangular Survey System Lands)

6S	RANGE	30E	MERIDIAN	Mount Diablo
			Check one:	
			Pending Issued	
issued, give ex	xpiration date:	Not a	pplicable	_
	-			
•	-	Exhibit 3	Exhibit 3	Exhibit 3
8	9	10	11	12
17	16	15	14	13
20	21	22	23	24
29	28	27	26	25
32	33	34	35	36
	e inary Permit issued, give ex 5. EXH 5 8 17 20 29 32 Victor M.	e inary Permit issued, give expiration date:  5. EXHIBIT SHEET N  5	e inary Permit  issued, give expiration date:	Pending   Issued   Issued

Form FERC-587 OMB No. 1902-0145 (Expires 10/31/2018)

#### LAND DESCRIPTION

#### **Public Land States** (Rectangular Survey System Lands)

1.	STATE	CALIFORN	IA	2. FERC PROJECT NO. Not applicable			
3.	TOWNSHIP	6S	RANGI	E 31E	MERIDIAN	Mount Diablo	
	4. Che	ck one:			Check one:		
		License Preliminary Perm	nit		Pending Issued		
If p	reliminary pe	ermit is issued, giv				_	
	Onation C		EXHIBIT SHEET		LETTERS	4	
	Section 6 Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3	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	
6.		ame <u>Victor</u> no. ( <u>909-595-</u> 5					
	Date submi	tted May 1	3, 2019				

#### **EXHIBIT 2 – DESCRIPTION OF THE PROPOSED STUDIES**

#### 1. GENERAL REQUIREMENT

Premium Energy proposes to carry out an exhaustive feasibility study to evaluate the proposed reservoirs layout alternatives, as well as the power transmission alternatives. The primary aspects to be studied are the geological, environmental and water resources, and electrical engineering of the project. The studies will also include the economic viability and financing of the project. The complete feasibility study will include:

- Project site land surveys.
- Geological and seismic investigations.
- Soil surveys, test pits, core holes and topographical surveying.
- Hydrological studies including runoff, rain, evaporation and groundwater flow.
- Evaluation of reservoirs configuration alternative.
- Devising of the project water supply plan, including legal and water rights matters.
- Environmental and cultural impact study comprising environmental surveys, impact identification, evaluation and mitigation measures.
- Engineering studies to optimize the project's physical configuration.
- Energy market studies and determining preliminary power sales and supply expectations.
- Evaluation of transmission interconnection alternatives including electrical system impact studies.
- Determination of size and specifications of the required equipment.
- Cost estimates, economic feasibility and financing options investigation.

Based on the results and findings of the initial stages of the feasibility study, the applicant will prepare a Notice of Intent and Pre-Application Document as detailed in 18 C.F.R. §§5.5 and 5.6.

Temporary access roads will be required to reach the project's new reservoirs site and perform the required studies. The access roads will lead to the Wheeler Ridge, Lower Rock Creek Gorge and the Owens River Gorge. Conceptual access roads for the project include temporary access roads starting from the Owens Gorge Road leading to each of the project's proposed pumped storage power plants and lower reservoirs. The second set of access roads will be start from Rock Creek Road and lead to the Wheeler Ridge new reservoirs site.

Additionally, access roads leading to the new substation site to interconnect Windhub Substation will be required for transmission alternative 1. Likewise, access roads to the proposed converter stations site will be required for transmission alternatives 2 and 3.

#### 2. WORK PLAN FOR NEW DAMS CONSTRUCTION

The new dams' construction will require subsurface investigations at the Wheeler Ridge, as well as the Lower Rock Creek Gorge and the Owens River Gorge. The investigations will be carried out at the proposed reservoirs site, as depicted in exhibit 3. Soil and rock borings will be necessary to determine the rock/soil structure and stability for the proposed dams and power plants foundations. Soil and rock samples shall be extracted to conduct studies and determine the soil mechanical properties. Therefore, assessing the project site's suitability for construction of the new dams. Furthermore, seismic surveys will also be required.

The schedule of activities will be completed by the applicant during the permit period as shown in the table below:

Table 6. Schedule of Activities

Schedule	Activity
Beginning in Month 1 to the end of Month 4	Conceptual engineering and evaluation of the alternative reservoir configurations
Beginning in Month 1 to the end of Month 6	Initial scoping and consultation
Beginning in Month 5 to the end of Month 10	Geotechnical and hydrological studies
Beginning in Month 7 to the end of Month 12	Soil and topographical surveying
Beginning in Month 1 to the end of Month 16	Environmental and cultural impact study
Beginning in Month 1 to the end of Month 14	Engineering studies to optimize the project's physical configuration
Beginning in Month 4 to the end of Month 16	Planning and evaluation of transmission interconnection alternatives
Beginning in Month 1 to the end of Month 12	Devising of water supply plan
Beginning in Month 12 to the end of Month 18	Legal and water rights matters
Beginning in Month 14 to the end of Month 24	Determination of size and specifications of the required equipment
Beginning in Month 10 to the end of Month 16	Energy market evaluation
Beginning in Month 6 to the end of Month 16	Cost estimating, economic feasibility & financial planning investigation
Beginning in Month 10 to the end of Month 16	Preliminary licensing proposal, consultation, and documentation
Beginning in Month 16 to the end of Month 24	Preparation, review and filing of the FERC license application

The schedule of activities may deviate from its initial formulation. Activities may be adjusted or supplemented depending upon circumstances which may develop as the studies proceed. Remedial actions to the possible disturbance of the proposed studies include the implementation of an erosion and material disposal plan, backfilling of core borings and test pits and replanting any disturbed vegetation.

#### 3. STATEMENT OF COSTS AND FINANCING

The total estimated cost of carrying out or preparing the studies, investigations, tests, surveys, maps, plans or specifications described above is \$5 Million.

The expected sources of financing available to carry out the activities of the described feasibility study are:

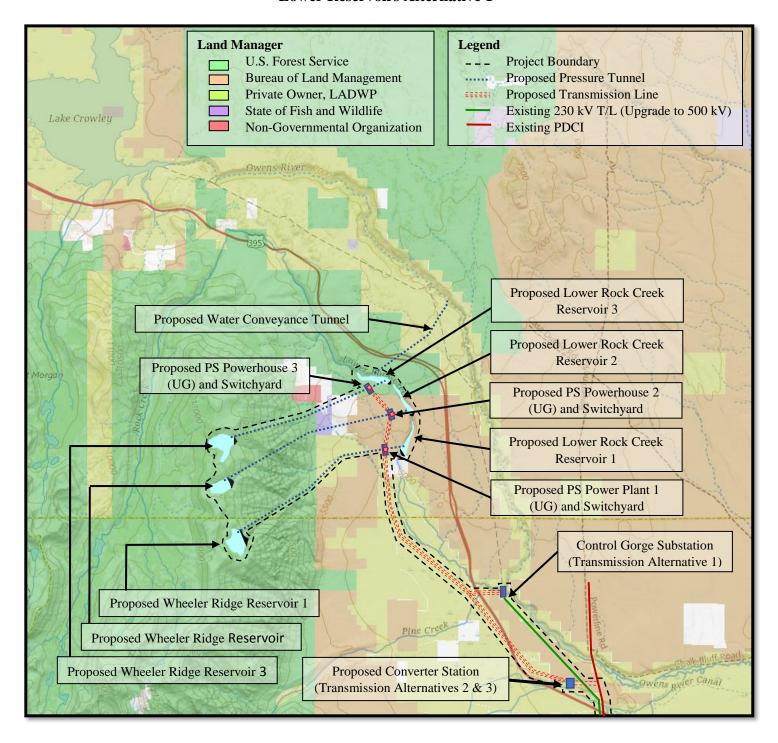
- o Premium Energy's available funds.
- Balance raising through investors.

The proposed market for the energy storage and production covers the electric markets in California. Power purchasing entities and other potential off-takers will be identified in further investigations during the term of the preliminary permit.

#### EXHIBIT 3 – OWENS VALLEY PUMPED STORAGE PROJECT MAP

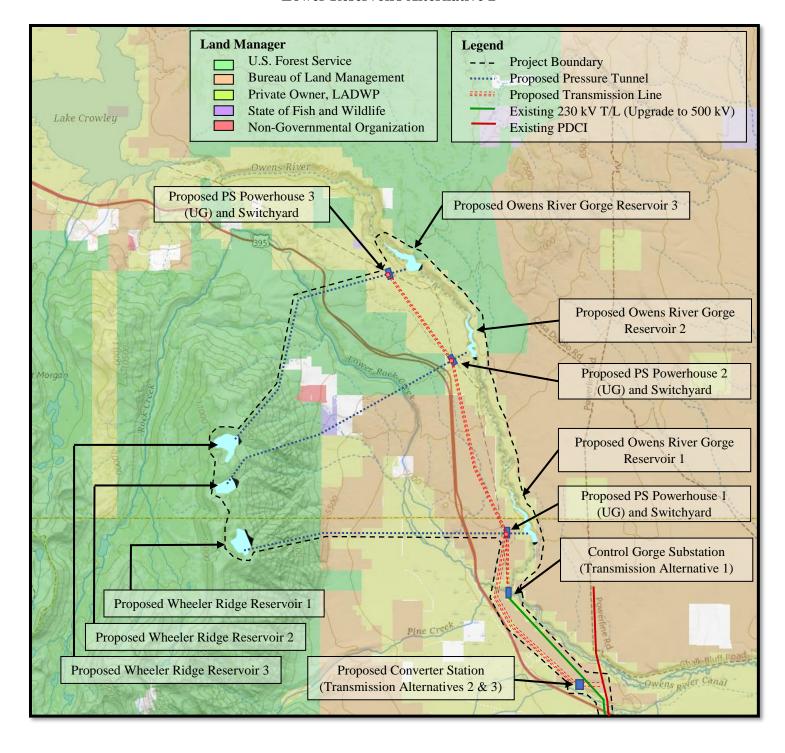
#### Owens Valley Pumped Storage Project Study Area Boundary

#### **Lower Reservoirs Alternative 1**



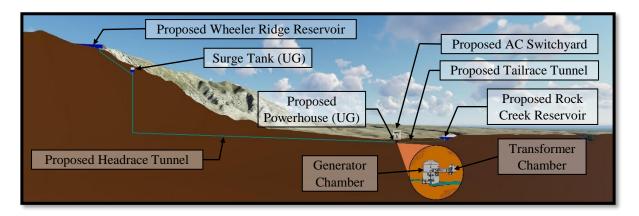
#### Owens Valley Pumped Storage Project Study Area Boundary

#### **Lower Reservoirs Alternative 2**

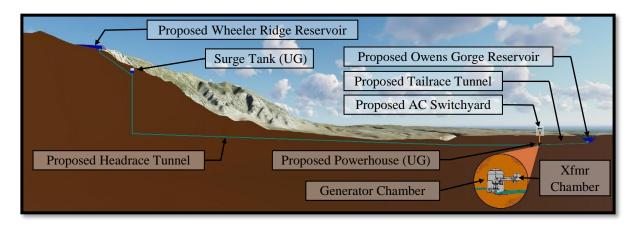


#### Owens Valley Pumped Storage Project Study Area Boundary

#### **Project's Typical Section View for Lower Reservoirs Alternative 1**

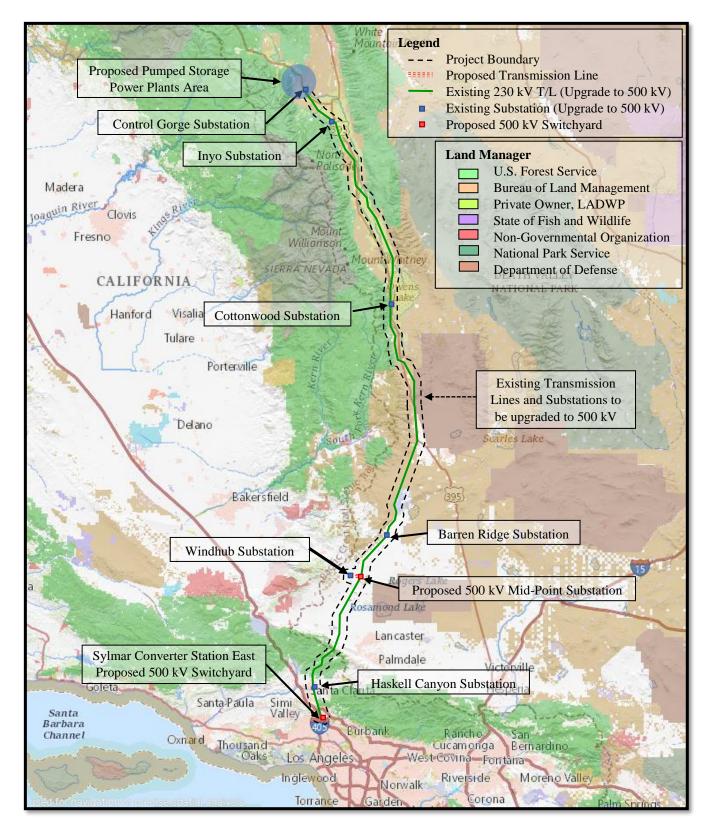


**Project's Typical Section View for Lower Reservoirs Alternative 2** 

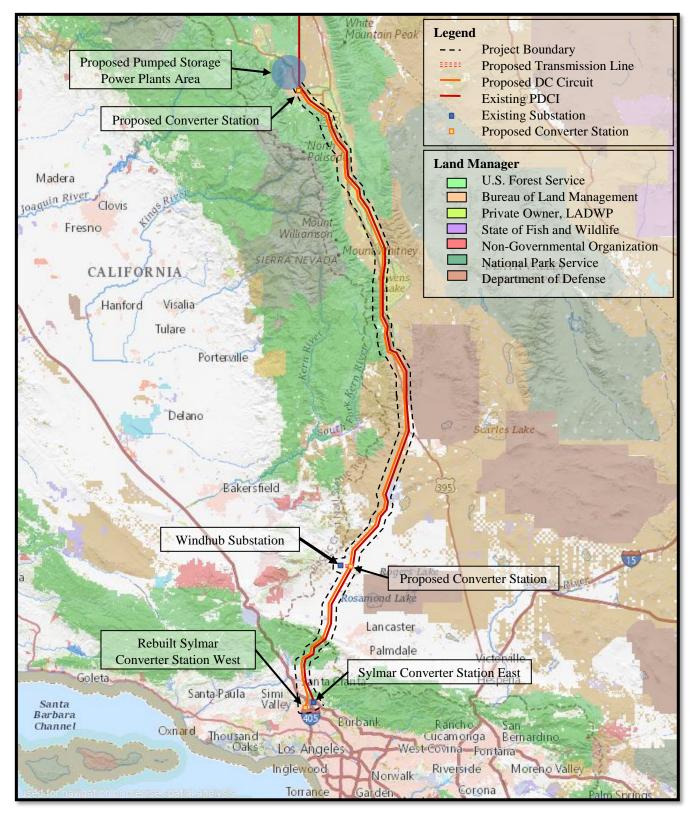


#### Owens Valley Pumped Storage Project Study Area Boundary

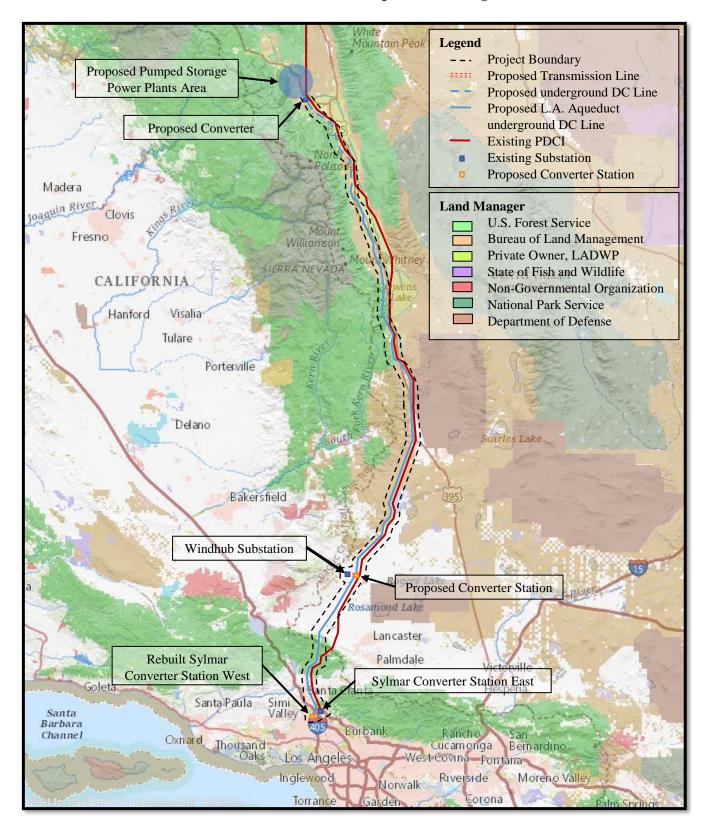
#### **Transmission Alternative 1 (AC)**



# Owens Valley Pumped Storage Project Study Area Boundary Transmission Alternative 2 (Overhead DC)



# Owens Valley Pumped Storage Project Study Area Boundary Transmission Alternative 3 (L.A. Aqueduct Underground DC)



20190514-501	18 FERC PDF (Uno	fficial)	5/13/	2019 5	:16:58 I	PM	
Document (	Content(s)						
Amendment	-Preliminary	Permit	for	Owens	Valle	y Project.PDF	1-30



355 South Lemon Ave, Suite A Walnut, CA 91789 (909) 595-5314 Phone (909) 595-5394 Fax

May 19, 2019

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

Re:

Premium Energy Holdings' Amendment No. 2 of the Application for Preliminary Permit for the Owens Valley Pumped Storage Project, FERC Project No. P-14984

#### Dear Secretary Bose:

Pursuant to 18 C.F.R. §§ 4.82 of the Federal Energy Regulatory Commission's ("FERC") regulations, enclosed for filing is Premium Energy Holdings, LLC's ("Premium Energy") Second Amendment to its Application for Preliminary Permit for the Owens Valley Pumped Storage Project under P-14984. This second amendment reflects the following changes:

- (1) Relocation of the project's proposed upper reservoirs. The new reservoirs would be in the White Mountains Range in the Inyo county, in lieu of the Wheeler Ridge.
- (2) Relocation of the project's proposed pressure tunnels, underground powerhouses, switchyards and transmission lines.
- (3) The project's ratings are changed to support power generation at 1,600 MW for the first power plant, 800 MW for the second power plant, and 2,400 MW for the third power plant. The total power generation capacity of the Owens Valley Pumped Storage Project would be 4,800 MW.

The required amendment in the application is requested in order to avoid the potential environmental conflict due to the alteration of the John Muir Wilderness. If you have any questions or require additional information regarding this submittal, please contact me at (909) 595-5314 or email me at victor.rojas@pehllc.net.

Sincerely,

Victor M. Rojas

Managing Director at Premium Energy

Holdings, LLC

**Enclosures** 

cc:

# BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

#### SECOND AMENDED APPLICATION FOR PRELIMINARY PERMIT OF THE OWENS VALLEY PUMPED STORAGE PROJECT

FERC Project No. P-14984

Prepared by

Premium Energy Holdings, LLC

May 19, 2019

#### TABLE OF CONTENTS

INITIAL STATEMENT	1
VERIFICATION STATEMENT	6
EXHIBIT 1 – DESCRIPTION OF THE PROPOSED PROJECT	
EXHIBIT 2 – DESCRIPTION OF THE PROPOSED STUDIES	
EXHIBIT 3 – OWENS VALLEY PUMPED STORAGE PROJECT MAP	. 23

#### **INITIAL STATEMENT**

# BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

#### **Second Amended Application for Preliminary Permit**

#### for the Owens Valley Pumped Storage Project

Premium Energy Holdings, LLC ("Premium Energy"), a California based limited liability corporation, applies to the Federal Energy Regulatory Commission for a preliminary permit for the Owens Valley Pumped Storage 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.

1. The location of the proposed project is:

State or territory: California

Counties: Mono County, Inyo County

Township or nearby town: Bishop

Streams: Owens River, Silver Creek, Gunter Creek

2. The exact name, business address, and telephone number of the applicant are:

Premium Energy Holdings, LLC 355 South Lemon Ave, Suite A

Walnut, CA 91789

Telephone: (909) 595-5314

3. The name, business address, and telephone number of the persons authorized to act as agent for the applicant in this application are:

Victor M. Rojas

Managing Director at Premium Energy Holdings, LLC

355 South Lemon Ave. Suite A

Walnut, CA 91789

Telephone: (909) 595-5314

Email: victor.rojas@pehllc.net

Maria Hernandez

Project Manager at Premium Energy Holdings, LLC

355 South Lemon Ave, Suite A

Walnut, CA 91789

Telephone: (909) 595-5314

Email: maria.hernandez@pehllc.net

- 4. Preference under Section 7(a) of the Federal Power Act
- 5. Premium Energy is a corporation operating in California and is not claiming preference under section 7(a) of the Federal Power Act. Premium Energy's business primarily involves the retrofit and modernization of pumping plants, transmission planning and design, power system studies, testing and commissioning of power plants and substations.

#### 6. Term of Permit:

The proposed term of the requested permit is twenty-four (24) months.

#### 7. Existing Dams or Other Project Facilities:

The proposed project would make use of the waters within the Owens Lake Watershed, specifically the Owens River waters. However, once the proposed reservoirs are filled, the project would operate in a closed loop and would not divert water from the Owens River or the existing streams. No existing dams or other project facilities will be part of the Owens Valley Pumped Storage Project.

### ADDITIONAL INFORMATION REQUIRED BY 18 C.F.R. § 4.32(a)

1. Identification of persons, associations, domestic corporations, municipalities, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project:

Premium Energy Holdings, LLC 355 South Lemon Ave, Suite A Walnut, CA 91789

Telephone: (909) 595-5314

- 2. Identify (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.

Mono County, California Board of Supervisors 278 Main Street BridgePort, CA 93517 Telephone: (866) 745-9719

Inyo County, California Board of Supervisors 224 N Edwards Street Independence, CA 93526 Telephone: (760) 878-0373

- 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:

None.

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

None.

- 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:

Los Angeles Department of Water and Power 111 N Hope Street Los Angeles, CA 90012 Telephone: (800) 499-8840 (B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

None.

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; and interest:

California Department of Water Resources P.O. Box 942836 1416 9th Street Sacramento, CA 95814

State Water Resources Control Board 1001 I Street P.O. Box 100 Sacramento, CA 95814

California Department of Fish and Game Inland Deserts Region 3602 Inland Empire Boulevard Suite C-220 Ontario, CA 91764

Inyo County Water Department P.O. Box 337 135 South Jackson St. Independence, CA 93526

California Department of Transportation (Caltrans) 1120 N Street Sacramento, CA 95814 Telephone: (916) 654-2852

v. All Indian tribes that may be affected by the project:

Chairperson
Bishop Paiute Tribe of the Owens Valley
50 Tu Su Lane
Bishop, CA 93514
Telephone: (760) 873-3584

Chairperson

Big Pine Paiute Tribe of the Owens Valley

P.O. Box 700

Big Pine, CA 93513

Telephone: (760) 938-2003

Chairperson

Lone Pine Paiute Shoshone Reservation

P.O. Box 747

Lone Pine, CA 93545

Telephone: (760) 8761034

Chairperson

Fort Independence Reservation

P.O. Box 67

Independence, CA 93526

Telephone: (760) 878-5160

#### VERIFICATION STATEMENT

This application for a preliminary permit for the proposed Owens Valley Pumped Storage Project is executed in the state of California, county of Los Angeles.

By: Victor M. Rojas
Premium Energy Holdings, LLC
355 South Lemon Ave, Suite A
Walnut, CA 91789

Being duly sworn, deposes, and says that the contents of this application for a preliminary permit are true to the best of his knowledge or belief. The undersigned applicant has signed the application on this 19th day of May of 2019.

Victor M. Rojas

Managing Director at Premium Energy Holdings, LLC

Subscribed and sworn before me, a Notary Public of the State of California, County of Los Angeles, this day of May 19, 2019.

NOTARY PUBLIC

#### EXHIBIT 1 – DESCRIPTION OF THE PROPOSED PROJECT

#### 1. GENERAL CONFIGURATION

The proposed Owens Valley Pumped Storage Project would be located 5 miles away from Bishop, California. Its facilities would be between the Southern Mono County and Northern Inyo County. Communities within the project's influence area include Wilkerson, Round Valley, Mesa, Rovana, Forty Acres, Sunny Slopes, Small Meadows, Paradise, Tom's Place, Aspen Springs and Crowley Lake.

The project concept envisions the construction of three pumped storage generating facilities. The project would be constructed in three successive stages for each pumped storage power plant. The project's stage 1 would introduce a 1,600 MW pumped storage power plant. Succeeding the completion of stage 1, a second 800 MW pumped storage power plant would be constructed during the project's stage 2. Finally, the project's stage 3 proposes the construction of a third pumped storage power plant with rated capacity at 2,400 MW.

The three power plants would operate as closed loop hydro-power pumped storage plants. The project's operation would not alter the existing streaming beds. Once the proposed reservoirs are filled with enough stored water for project operation, water will not be diverted from the upstream Owens River or Lake Crowley.

The three pumped storage power plants would employ new upper reservoirs created in the White Mountains Range in the Inyo county. The project's lower reservoirs would be created in the Owens River Gorge. Each of the project's new reservoirs would require the construction of a new embankment for them to be filled and interconnecting hydraulic pressure tunnels. The embankments for the project's proposed reservoirs would consist of roller compacted concrete dams. Conceptual dimensions for the project's dams and tunnels are detailed in tables 1 and 2, respectively.

Table 1. New Reservoirs' Embankment Dimensions

Description	Reservoir	Dam Crest Elev. [ft]	Dam Height [ft]	Dam Length at Crest [ft]
irs	White Mountains Reservoir 1	8,355	655	2,570
Upper Reservoirs	White Mountains Reservoir 2	7,715	555	1,690
Reg	White Mountains Reservoir 3	8,855	545	1,400
r irs	Owens River Gorge Reservoir 1	4,895	375	990
Lower Reservoirs	Owens River Gorge Reservoir 2	5,835	490	1,340
I Re	Owens River Gorge Reservoir 3	6,455	375	1,290

Table 2. Pressure Tunnels Dimensions

Upper Reservoir	Lower Reservoir	Head [ft]	Tunnel Diameter [ft]	Tunnel Length [mi]
White Mountains Reservoir 1	Owens River Gorge Reservoir 1	3,460	28	19.5
White Mountains Reservoir 2	Owens River Gorge Reservoir 2	1,880	22	20.8
White Mountains Reservoir 3	Owens River Gorge Reservoir 3	2,400	27	22.0

The proposed power plants are proposed to be cavern-type powerhouses located underground. The powerhouses would be located about a mile away from the proposed lower reservoirs shore. Each underground powerhouse would have an access tunnel, and would be connected to a headrace pressure tunnel, and a tailrace pressure tunnel. Hence, the project's main features will be located underground and will not alter the existing landscape or cause environmental disturbances. Aside from the proposed reservoirs and electrical transmission, the project's facilities will be out of public sight.

Each of the project's stages will require the construction of the new upper and lower reservoirs, pressure tunnels, underground generating/pumping powerhouses, electrical switchyards, and interconnecting transmission lines. The final combined pumped storage power plants would deliver a total of 4,800 MW through 500 kV transmission lines. The project's transmission lines would interconnect with Los Angeles Department of Water and Power (LADWP) AC or DC transmission system to deliver the generated power. An additional interconnection with SCE's Windhub Substation would facilitate the exchange of renewable energy with SCE as well as with other municipal utilities in southern California. Upgrades to existing transmission lines and substations would be necessary to deliver the electrical power to the existing high-voltage regional transmission system.

#### 2. RESERVOIRS

The upper and lower reservoirs configuration is to be the best suited to maximize the available hydraulic head, as well as minimize the pressure tunnels layout within environmental constraints. The proposed reservoir sites within this application are the result of conceptual engineering completed by Premium Energy and its consultants. During the term of the preliminary permit, Premium Energy will further investigate on the new reservoirs configuration and select the best suited location for energy, economic and environmental considerations.

The project concept includes a new White Mountains reservoir serving as upper reservoir for each of the three pumped storage power plants. A new reservoir in the Owens River Gorge will serve as the lower reservoir for each power plant. A hydraulic head of up to 3,460 ft would exist between the new reservoirs, which would be exploited for hydro power generation.

#### A. Upper Reservoirs Configuration

The project's three pumped storage power plants will employ new reservoirs in the White Mountains as upper reservoirs. The new White Mountains reservoirs' physical characteristics are detailed in table 3.

Table 3. Upper Reservoirs Characteristics

Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
White Mountains Reservoir 1	100	22,870	8,340
White Mountains Reservoir 2	70	13,810	7,700
White Mountains Reservoir 3	130	21,390	8,840

To enable pumped storage operation, the new reservoirs will have intake-outlet structures with a submerged intake elevation at an adequate height. Below this elevation, a permanent reserve of water will remain in the reservoirs. From the intake-outlet structures, the head race pressure tunnels will unfold to connect the new White Mountains reservoirs to the powerhouses located underground near the new Owens River Gorge reservoirs.

The new White Mountains reservoirs site naturally discharges runoff to streams reaching the Owens River. During high water level season, excess water from the White Mountains Reservoir 1 and 2 would be discharged to the Silver Creek. White Mountains Reservoir 3 would discharge to the Gunter Creek. These creeks join the Owens River downstream.

#### B. Lower Reservoirs Configuration

The project proposes the new lower reservoirs to be created in the Owens River Gorge. The new lower reservoirs physical characteristics are detailed in tables 4 and 5. The Owens River currently supplies water for the L.A. Aqueduct System, which delivers water from the Owens River to Los Angeles. However, the project's pumped storage power plants will operate in a closed loop. Therefore, operation will reuse the water in a cyclic manner and will not divert water from the upstream water sources. The project's new reservoirs will provide enough water storage capacity for 12 hours of continuous output, with a backup reserve to generate power for up to 24 hours.

Table 4. Lower Reservoirs Characteristics

Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
Owens River Gorge Reservoir 1	190	23,530	4,880
Owens River Gorge Reservoir 2	75	12,660	5,820

Owens River Gorge Reservoir 3	155	19,610	6,440
-------------------------------	-----	--------	-------

#### 3. TRANSMISSION LINES

The Project proposes three interconnection alternatives with the regional electric utility network:

- Transmission alternative 1 interconnects the project to LADWP's Owens Gorge Substations. The power is then transmitted through upgraded LADWP's 500 kV AC transmission lines to a new Sylmar AC Switchyard.
- Transmission alternative 2 will deliver the power to Sylmar Converter Station making use of a section of the existing PDCI. The interconnection would require one of the following upgrade options for the existing PDCI segment going from Owens Valley to Sylmar Converter Station:
  - Upgrade the existing PDCI poles to a 4+ conductor bundle per pole with reinforced electrical towers.
  - Addition of a second DC circuit in the same PDCI segment with modified electrical towers to support two independent circuits.

This alternative would also require the construction of a new converter station east of the Lower Owens Gorge and a new converter station in a rebuilt Sylmar West Converter Station.

• A third transmission alternative follows the same configuration of transmission alternative 2, except it will not make use of the PDCI corridor. Instead, this alternative would employ underwater HVDC cables going on the L.A. Aqueduct.

In order to harness and store excess renewable energy, the project proposes interconnection with Southern California Edison's (SCE) TRTP Windhub Substation for all transmission alternatives. Transmission alternative 1 would require a new 500 kV mid-point substation to interconnect with SCE's Windhub substation. On the other hand, a new converter station near Windhub Substation would be required for transmission alternatives 2 and 3. This new converter station would allow for the interconnection of HVDC electrical power to the AC Windhub substation for the project's operation.

Further studies of the project's transmission lines location, voltage, number of circuits, and interconnection alternatives will be carried out during the term of this preliminary permit, to select the most preferable alternative. The interconnection voltage may be 230 or 500 kV, AC or DC, depending upon the results of studies to be carried out. In case the project uses 500 kV transmission lines, the upgrade of subsequent transmission lines and involved substations will be necessary.

#### 4. PROJECT CAPACITY

The project is proposed to store excess renewable energy, helping to integrate renewables onto the grid, and to supply firm peaking power generation with primary load following capability. Based on preliminary analysis, the planned total installed capacity of the three pumped storage power plants would be 4,800 MW. However, the project's rating may change as studies proceed. Premium Energy also plans to conduct

transmission system studies and power market investigations to help further refine the range of suitable generation capabilities.

Assuming a plant capacity factor of 40%, the Owens Valley Pumped Storage Plant #1, rated at 1,600 MW, will produce a total of 5,530 GWh of annual energy production. The Owens Valley Pumped Storage Plant #2, rated at 800 MW, will have an annual energy production of 2,760 GWh. Finally, the Owens Valley Pumped Storage Plant #3 with a rating of 2,400 MW, will have an 8,290 GWh annual energy production. The three closed-loop pumped-storage power plants involved in this project would have a total combined annual energy production of 16,580 GWh.

On a preliminary basis, the maximum gross head may be up to 3,460 feet depending on the reservoirs' location. At the present time, the project concept envisions procurement of four new pump-turbine generator-motor sets for the first pumped storage power plant. Two new units would be required for the second pumped storage power plant, and six new units for the third pumped storage power plant. Each unit would have a nominal rating at 400 MW.

#### 5. <u>FEDERAL LANDS</u>

The project study boundary, as shown on Exhibit 3, encompasses part of the Inyo National Forest, the Bureau of Land Management California lands and City land belonging to either the Los Angeles Department of Water and Power (LADWP) or private owners. The project's new White Mountains reservoirs would be in the eastern section of the Inyo National Forest, managed by the U.S. Forest Service. The proposed hydro power pressure tunnels would mostly go through part of the Inyo National Forest and the Bureau of Land Management lands. The lower reservoirs would be created in the Owens River Gorge, which is currently owned by LADWP.

The interconnection of the project will require new transmission lines in the Owens Valley to interconnect the project's power plants to either the Control Gorge Substation or a new converter station west of the lower Owens Gorge. This new transmission corridor will occupy the Bureau of Land Management lands to interconnect the proposed Owens Pumped Storage Power Plant #1 and # 2. The Owens Pumped Storage Power Plant #3 will require a new transmission corridor going through BLM lands and part of the Forest Service lands. After this new transmission lines, the subsequent existing transmission lines and substations that will be upgraded are in Los Angeles Department of Water and Power lands. These lands correspond to either the subsequent 230 kV AC transmission lines corridor, the PDCI corridor, or the L.A. Aqueduct corridor; for transmission alternatives 1, 2, and 3, respectively.

# Public Land States (Rectangular Survey System Lands)

1. STATE	STATE CALIFORNIA			2. FERC PROJECT NO P-14984		
3. TOWNSHIP	48	RANGE _	30E	MERIDIAN	Mount Diablo	
4. Check of	one:		C	check one:		
	ense eliminary Permit		_	Pending Issued		
If preliminary permi	it is issued, give ex	piration date:	Not app	olicable	_	
0		BIT SHEET NU			4	
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 Exhibit 3	
31	32	33	34	35	36 Exhibit 3	
	Victor M. F ( 909-595-5314  May 19, 20		_			

# Public Land States (Rectangular Survey System Lands)

1. STATE	CALIFORN	IA	2. FER	2. FERC PROJECT NO. P-14984		
3. TOWNSHIP _	48	RANG	E 31E	MERIDIAN	Mount Diablo	
4. Chec	k one:			Check one:		
	∟icense Preliminary Perm	nit		Pending Issued		
If preliminary pe					_	
0 1 0		EXHIBIT SHEET			4	
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 Exhibit 3	32 Exhibit 3	33	34	35	36	
	me <u>Victor</u> no. <u>( 909-595-5</u> ted <u>May 1</u>	•				

# Public Land States (Rectangular Survey System Lands)

1. STATE	TECALIFORNIA			2. FERC PROJECT NO. P-14984			
3. TOWNSHIP	58	RANG	E 31E	MERIDIAN	Mount Diablo		
4. Check	cone:			Check one:			
	cense reliminary Permi	it		Pending Issued			
If preliminary perr	_	•	'		_		
Section 6	5. E	XHIBIT SHEET 4	NUMBERS OR	LETTERS 2	1		
	Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3	•		
7	8	9 Exhibit 3	10 Exhibit 3	11 Exhibit 3	12 Exhibit 3		
18	17	16	15	14	13		
		Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3		
19	20	21	22	23	24		
				Exhibit 3	Exhibit 3		
30	29	28	<b>27</b> Exhibit 3	26 Exhibit 3	25		
31	32	33	34 Exhibit 3	35 Exhibit 3	36		
•	ne <u>Victor</u> o. <u>( 909-595-5</u> ed <u>May 19</u>	314 )					

# Public Land States (Rectangular Survey System Lands)

1. STATE	CALIFORNI	IA .	2. FER	C PROJECT NO.	P-14984
3. TOWNSHIP _	5S	RANG	E 32E	MERIDIAN	Mount Diablo
4. Check	k one:			Check one:	
	icense Preliminary Perm	nit		Pending Issued	
If preliminary per	_	-			
Section 6	5. E 5	XHIBIT SHEET 4	NUMBERS OR 3	LETTERS 2	1
Jection 0	3	7	3	2	·
7	8	9	10	11	12
18 Exhibit 3	17	16	15	14	13
19 Exhibit 3	<b>20</b> Exhibit 3	21 Exhibit 3	22	23	24
30	<b>29</b> Exhibit 3	28 Exhibit 3	<b>27</b> Exhibit 3	26	25
31	32	33 Exhibit 3	34 Exhibit 3	35 Exhibit 3	36
6. Contact's nar Telephone no	o. <u>(                                    </u>	-			

# Public Land States (Rectangular Survey System Lands)

1. STATE	CALIFORN	Α	2. FER	C PROJECT NO	. P-14984
3. TOWNSHIP _	6S	RANG	E 31E	MERIDIAN	N Mount Diablo
4. Checl	k one:			Check one:	
	icense Preliminary Perm	it		Pending Issued	
If preliminary per	mit is issued, giv	e expiration date	e: Not a	applicable	
		XHIBIT SHEET			
Section 6	5	4	3 Exhibit 3	Exhibit 3	Exhibit 3
7	8	9	<b>10</b> Exhibit 3	Exhibit 3	Exhibit 3
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
Telephone no	me <u>Victor</u> c. ( <u>909-595-5</u> ed <u>May 1</u>	314 )			

# Public Land States (Rectangular Survey System Lands)

1. STATE	TATE CALIFORNIA			2. FERC PROJECT NO. P-14984		
3. TOWNSHIP _	6S	RANG	E 32E	MERIDIAN	Mount Diablo	
4. Chec	k one:			Check one:		
	icense Preliminary Perm	nit		Pending Issued		
If preliminary per						
Section 6	5. i	EXHIBIT SHEET 4	NUMBERS OR	LETTERS 2	1	
Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3	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	
Telephone n	me <u>Victor</u> o. <u>( 909-595-5</u> ted <u>May 1</u>	<u>5314</u> )				

# Public Land States (Rectangular Survey System Lands)

3. TOWNSHIP 6S RANGE 33E MERIDIAN Mount Diablo  4. Check one:  License Pending Issued  If preliminary permit is issued, give expiration date:  Section 6 Exhibit 3 Exh	1. STATE	CALIFORN	IA	2. FER	C PROJECT NO	. P-14984
License	3. TOWNSHIP _	6S	RANG	E 33E	MERIDIAN	Mount Diablo
Section 6   Exhibit 3   Exhi	4. Chec	ck one:			Check one:	
Section 6   Exhibit 3   Exhi			nit			
Section 6 Exhibit 3	If preliminary pe	-	·			_
Exhibit 3	Section 6		_			1
Exhibit 3			•	-	_	•
Exhibit 3						
19 20 21 22 23 24 Exhibit 3 30 29 28 27 26 25	7		-			
19 20 21 22 23 24 Exhibit 3 30 29 28 27 26 25						
30 29 28 27 26 25	18	17	16	15		
30 29 28 27 26 25	19	20	21	22	23	24
31     32     33     34     35     36	30	29	28	27	26	25
	31	32	33	34	35	36
6. Contact's name	6. Contact's na	ame <u>Victor</u>	<sup>-</sup> M. Rojas		1	
Telephone no. ( 909-595-5314 )	Telephone n	no. <u>( 909-595-5</u>	<u>5314</u> )			
	Date submit	ted <u>May 1</u>	9, 2019	_		

# Public Land States (Rectangular Survey System Lands)

1. STATE CALIFORNIA			2. FER	2. FERC PROJECT NO. P-14984		
3. TOWNSHIP _	6S	RANGE	34E	MERIDIAN	Mount Diablo	
4. Check	k one:			Check one:		
License X Preliminary Permit				Pending Issued		
If preliminary per	_	e expiration date			_	
5. EXHIBIT SHEET NUMBERS OR LETTERS Section 6 5 4 3 2 1						
Section 6	3	4	Exhibit 3	2	'	
Exhibit 3	Exhibit 3	Exhibit 3	Exhibit 3	11	12	
18	Exhibit 3	16 Exhibit 3	15 Exhibit 3	14	13	
19 Exhibit 3	20	21	<b>22</b> Exhibit 3	23	24	
30 Exhibit 3	<b>29</b> Exhibit 3	28	<b>27</b> Exhibit 3	26	25	
31	32 Exhibit 3	33 Exhibit 3	34 Exhibit 3	35	36	
	me <u>Victor</u> o. ( 909-595-5	•				

#### **EXHIBIT 2 – DESCRIPTION OF THE PROPOSED STUDIES**

#### 1. GENERAL REQUIREMENT

Premium Energy proposes to carry out an exhaustive feasibility study to evaluate the proposed reservoirs layout alternatives, as well as the power transmission alternatives. The primary aspects to be studied are the geological, environmental and water resources, and electrical engineering of the project. The studies will also include the economic viability and financing of the project. The complete feasibility study will include:

- Project site land surveys.
- Geological and seismic investigations.
- Soil surveys, test pits, core holes and topographical surveying.
- Hydrological studies including runoff, rain, evaporation and groundwater flow.
- Evaluation of reservoirs configuration alternative.
- Devising of the project water supply plan, including legal and water rights matters.
- Environmental and cultural impact study comprising environmental surveys, impact identification, evaluation and mitigation measures.
- Engineering studies to optimize the project's physical configuration.
- Energy market studies and determining preliminary power sales and supply expectations.
- Evaluation of transmission interconnection alternatives including electrical system impact studies.
- Determination of size and specifications of the required equipment.
- Cost estimates, economic feasibility and financing options investigation.

Based on the results and findings of the initial stages of the feasibility study, the applicant will prepare a Notice of Intent and Pre-Application Document as detailed in 18 C.F.R. §§5.5 and 5.6.

Temporary access roads will be required to reach the project's new reservoirs site and perform the required studies. The proposed temporary access roads would start from the existing Owens Gorge Road and lead to each of the proposed Owens River Gorge Reservoirs site. The White Mountains Reservoirs site would be reached through temporary access roads starting from either the existing Gunter Road or the existing Silver Canyon Road.

Additionally, access roads leading to the new substation site to interconnect Windhub Substation will be required for transmission alternative 1. Likewise, access roads to the proposed converter stations site will be required for transmission alternatives 2 and 3.

#### 2. WORK PLAN FOR NEW DAMS CONSTRUCTION

The new dams' construction will require subsurface investigations at the White Mountains Range, as well as the Owens River Gorge. The investigations will be carried out at the proposed reservoirs site, as depicted in exhibit 3. Soil and rock borings will be necessary to determine the rock/soil structure and stability for the proposed dams and power plants foundations. Soil and rock samples shall be extracted to conduct studies and determine the soil mechanical properties. Therefore, assessing the project site's suitability for construction of the new dams. Furthermore, seismic surveys will also be required to ensure reliability of the proposed dams and the safety of the surrounding communities.

The schedule of activities will be completed by the applicant during the permit period as shown in the table below:

Table 5. Schedule of Activities

Schedule	Activity		
Beginning in Month 1 to the end of Month 4	Conceptual engineering and evaluation of the alternative reservoir configurations		
Beginning in Month 1 to the end of Month 6	Initial scoping and consultation		
Beginning in Month 5 to the end of Month 10	Geotechnical and hydrological studies		
Beginning in Month 7 to the end of Month 12	Soil and topographical surveying		
Beginning in Month 1 to the end of Month 16	Environmental and cultural impact study		
Beginning in Month 1 to the end of Month 14	Engineering studies to optimize the project's physical configuration		
Beginning in Month 4 to the end of Month 16	Planning and evaluation of transmission interconnection alternatives		
Beginning in Month 1 to the end of Month 12	Devising of water supply plan		
Beginning in Month 12 to the end of Month 18	Legal and water rights matters		
Beginning in Month 14 to the end of Month 24	Determination of size and specifications of the required equipment		
Beginning in Month 10 to the end of Month 16	Energy market evaluation		
Beginning in Month 6 to the end of Month 16	Cost estimating, economic feasibility & financial planning investigation		
Beginning in Month 10 to the end of Month 16	Preliminary licensing proposal, consultation, and documentation		
Beginning in Month 16 to the end of Month 24	Preparation, review and filing of the FERC license application		

The schedule of activities may deviate from its initial formulation. Activities may be adjusted or supplemented depending upon circumstances which may develop as the studies proceed. Remedial actions to the possible disturbance of the proposed studies include the implementation of an erosion and material disposal plan, backfilling of core borings and test pits and replanting any disturbed vegetation.

#### 3. STATEMENT OF COSTS AND FINANCING

The total estimated cost of carrying out or preparing the studies, investigations, tests, surveys, maps, plans or specifications described above is \$5 Million.

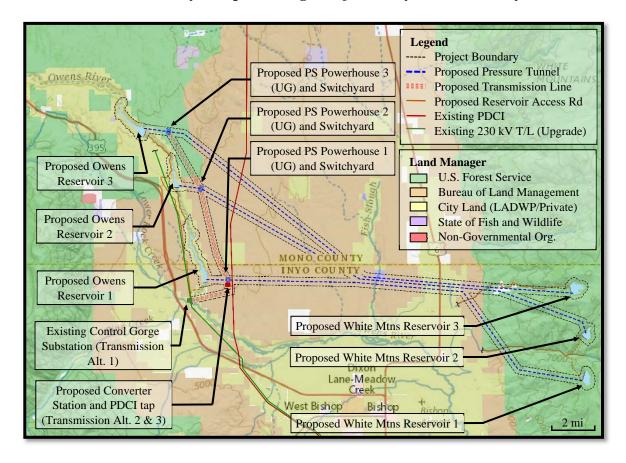
The expected sources of financing available to carry out the activities of the described feasibility study are:

- o Premium Energy's available funds.
- o Balance raising through investors.

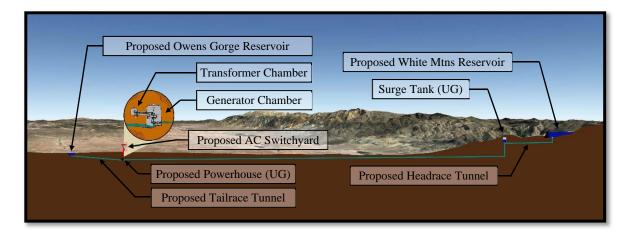
The proposed market for the energy storage and production covers the electric markets in California. Power purchasing entities and other potential off-takers will be identified in further investigations during the term of the preliminary permit.

#### EXHIBIT 3 – OWENS VALLEY PUMPED STORAGE PROJECT MAP

#### Owens Valley Pumped Storage Project Study Area Boundary

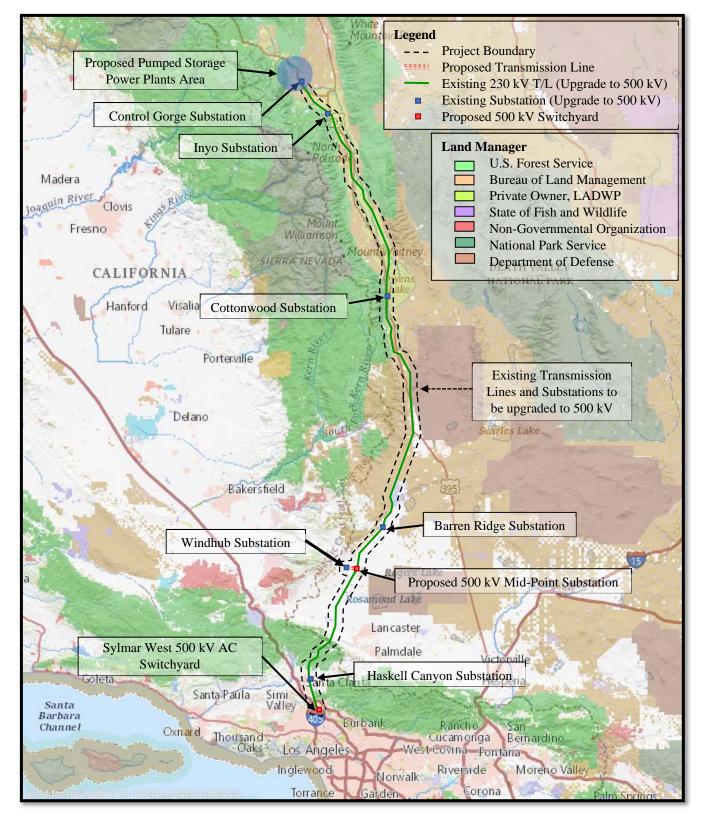


**Project's Typical Section View** 



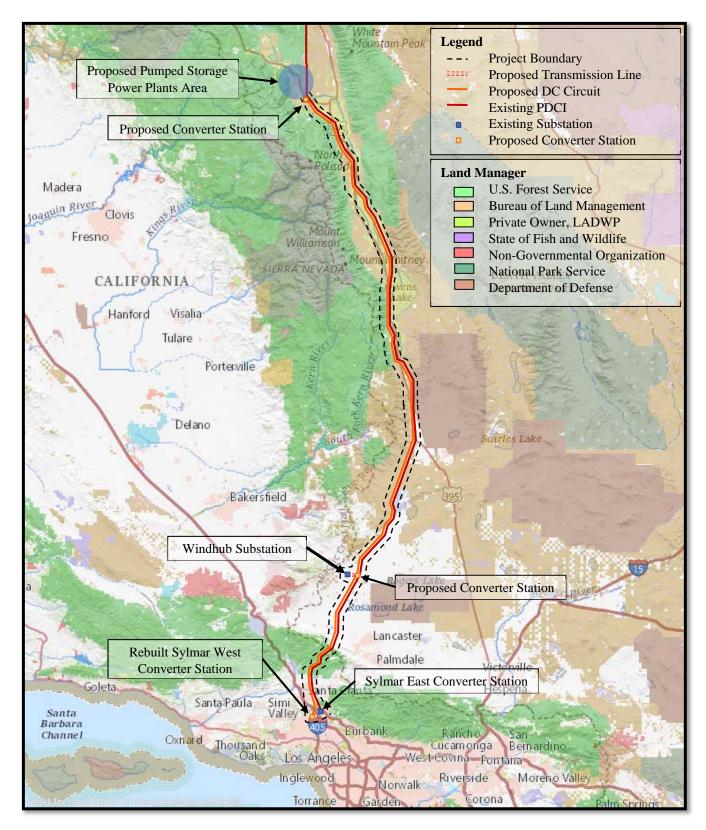
#### Owens Valley Pumped Storage Project Study Area Boundary

#### **Transmission Alternative 1 (AC)**



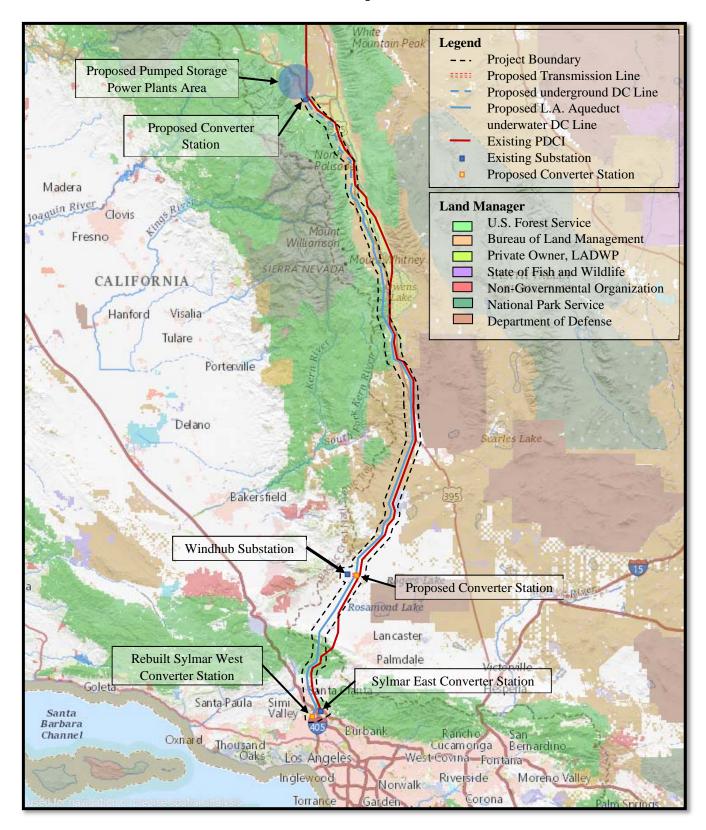
#### Owens Valley Pumped Storage Project Study Area Boundary

#### **Transmission Alternative 2 (Overhead DC)**



### Owens Valley Pumped Storage Project Study Area Boundary

#### Transmission Alternative 3 (L.A. Aqueduct Underwater DC Cable)





Jennifer Halferty ~ District One Fred Stump ~ District Two Bob Gardner ~ District Three

John Peters ~ District Four Stacy Corless ~ District Five

# BOARD OF SUPERVISORS COUNTY OF MONO

P.O. BOX 715, BRIDGEPORT, CALIFORNIA 93517 (760) 932-5533 • FAX (760) 932-5531 Shannon Kendall, Clerk of the Board

May 23, 2019

#### VIA FERC E-FILING SYSTEM

Kyle Olcott Federal Energy Regulatory Commission Division of Hydropower Licensing 888 First Street NE Washington, DC 20426

#### VIA POSTAL MAIL AND EMAIL

Victor Rojas Managing Director, Premium Energy Holdings, LLC 355 South Lemon Ave., Suite A Walnut, CA 91789

Email: <a href="mailto:vvrojas@pehllc.net">vvrojas@pehllc.net</a>

RE: Premium Energy Holdings, LLC's Second Amendment to the Application for a

Preliminary Permit for the Owens Valley Pumped Storage Project, FERC Docket No. P-

14984

Dear Mr. Olcott and Mr. Rojas,

In response to Premium Energy Holdings, LLC's ("Premium") <u>Second</u> Amendment to the Application for a Preliminary Permit for the Owens Valley Pumped Storage Project, FERC Docket No. P-14984 (collectively, "Premium's Application"), the Mono County Board of Supervisors ("Board") would like to be very clear that any project impacting sensitive resources and natural hazards in Mono County will be strongly opposed.

The second proposed amendment passes through Areas of Critical Environmental Concern managed by the Bureau of Land Management (BLM), a California Department of Fish and Wildlife (CDFW) ecological reserve<sup>1</sup>, and Wilderness Study Areas (WSAs), and the upper reservoirs are in U.S. Forest Service (USFS) Inventoried Roadless Areas (see Attachment 1). The new proposed project area appears to be geologically unstable with multiple faults<sup>2</sup> (see

<sup>&</sup>lt;sup>1</sup> Fish Slough Ecological Reserve, California Department of Fish and Wildlife. Website: <a href="https://www.wildlife.ca.gov/Lands/Places-to-Visit/Fish-Slough-https://www.wildlife.ca.gov/Lands/Places-to-Visit/Fish-Slough-ER">https://www.wildlife.ca.gov/Lands/Places-to-Visit/Fish-Slough-https://www.wildlife.ca.gov/Lands/Places-to-Visit/Fish-Slough-ER</a>. Accessed May 20, 2019.

<sup>&</sup>lt;sup>2</sup> Fault Activity Map of California (2010), California Department of Conservation. Website: <a href="http://maps.conservation.ca.gov/cgs/fam/">http://maps.conservation.ca.gov/cgs/fam/</a>. Accessed May 20, 2019.

Mr. Kyle Olcott

RE: Premium Energy Application for Preliminary Permit, FERC Docket No. P-14984

May 23, 2019

Page 2 of 3

Attachment 2). This information about sensitive areas and hazards is located online and available for free with some due-diligence research. In addition, the new proposed project continues to locate reservoirs within the Lower Owens River Gorge. A 2015 stipulated judgement and order between Mono County, the Mono County District Attorney, CDFW and the Los Angeles Department of Water and Power governs the construction of certain infrastructure improvements to implement instream flows for the fishery within the Gorge. The proposed location of the reservoirs would be inconsistent with the stipulated judgment and order and, more importantly, devastate the local fishery and eliminate the free-flowing nature of the Lower Owens River through the Gorge. Finally, Mono County is aware of sensitive Native American tribal cultural resources in the new proposed project area. The Benton Paiute Reservation, Mono Lake Kutzedika'a Tribe, Bridgeport Indian Colony, and Bishop Paiute Tribe, potentially among others, should notified and provided an opportunity to consult on the project.

The concerns Mono County raised in the previous two comment letters remain unaddressed, including 1) application deficiencies, 2) impacts to surface and groundwater flows and recreational resources, 3) visual impacts, 4) vibration and noise impacts on wildlife and local communities, 4) engineering and financial feasibility, and 5) lack of capacity of the existing transmission infrastructure. Mono County has specific knowledge from previous development projects of the difficulties of trying to drill through Bishop Tuff, which comprises much of the geology through the project area. The tunneling will also result in an enormous amount of fill that will be a challenge to dispose of without additional environmental impacts.

Mono County is unable to determine at this time whether any private property is included in the second proposed project amendment. Inclusion of any private property would trigger Mono County's jurisdictional authority.

Mono County continues to urge FERC not to accept for filing Premium's Application because of application deficiencies and the concerns discussed above and in the County's previous letters. If the application is accepted, however, the County also continues to request assurance that no decision will be made without FERC first holding a local meeting in southern Mono County on the project.

Mono County continues to urge Premium Energy Holdings, LLC, to complete basic due diligence prior to submitting any further project amendments. The lack of basic knowledge of the area is alarming and certainly does not inspire confidence in Premium's ability to manage a project of this scale. Finally, the Mono County Board of Supervisors urges Premium to schedule a meeting with County representatives as was requested by email on May 15, 2019.

Thank you for your time and consideration of the Board's comments. Please contact Mono County Community Development Director Wendy Sugimura at (760) 924-1814 or wsugimura@mono.ca.gov with any questions or comments.

Mr. Kyle Olcott

RE: Premium Energy Application for Preliminary Permit, FERC Docket No. P-14984

May 23, 2019

Page 3 of 3

Sincerely,

John Peters Chair, Mono County Board of Supervisors

#### **Attachments:**

- 1. Sensitive Resource Map
- 2. Fault Zone Map

cc: President Donald Trump (via postal mail)

Senator Dianne Feinstein (via postal mail)

Senator Kamala Harris (via postal mail)

Congressman Paul Cook (via postal mail)

Assemblyman Frank Bigelow (via postal mail)

Senator Andreas Borgeas (via postal mail)

Premium Energy Holdings, LLC (via email only)

Inyo National Forest (via email only)

Sierra National Forest (via email only)

U.S. Bureau of Land Management (via email only)

California Natural Resources Agency (via email only)

California Department of Fish and Wildlife (via email only)

California Energy Commission (via email only)

Great Basin Unified Air Pollution Control District (via email only)

Town of Mammoth Lakes (via email only)

Wheeler Crest Community Services District (via email only)

Mammoth Lakes Fire Protection District (via email only)

Paradise Fire Protection District (via email only)

Wheeler Crest Fire Protection District (via email only)

Hilton Creek Community Services District (via email only)

Long Valley Fire Protection District (via email only)

Inyo County Board of Supervisors (via email only)

Invo County Water Department (via email only)

Bishop City Council (via email only)

Los Angeles Department of Water and Power (via email only)

The Sierra Club (via email only)

Friends of the Inyo (via email only)

Owens Valley Committee (via email only)

Benton Paiute Reservation (via email only)

Mono Lake Kutzedika'a Tribe (via email only)

Bridgeport Indian Colony (via email only)

Bishop Paiute Tribe (via postal mail)

Wheeler Crest Community Service District 129 Willow Rd Swall Meadows CA, 93514



Date: May 20, 2019

To: Wheeler Crest Community Service District Customers

From: WCCSD – Board of Directors

Subject: Proposed Premium Energy Holdings Pump Storage Project

As you may know Premium Energy Holdings has applied to the Federal Energy Regulatory Commission for a permit to study the possible construction of 3 dams and reservoirs directly above Swall Meadows. The purpose of the project is a "closed pump storage" system to generate electrical power for Los Angeles. The proposed project would be built in the John Muir Wilderness area on the Wheeler Crest Ridge above Swall. It would include possible large penstock pipes running down Wheeler Crest and perhaps under private property in Swall Meadows. The project would be a potential danger to our community for a few of the following reasons:

- Possible disruption and/or loss of water supplies to our community.
- The project reservoirs are above Swall in an active earthquake zone.
- Wheeler Crest is subject to high winds which may down very high voltage power lines and cause possible wildfires.
- The project would require years of construction with heavy equipment in and around our community.

The WCCSD Board of Directors, Mono County, Inyo National Forest, conservation organizations and many local residents have already written letters of opposition to granting the permit to the Federal Energy Regulatory Commission. If you would like to oppose this project and more information on who to contact including a "talking points list" please email:

Bill Dunlap, Secretary - icedunlap@yahoo.com.

Sincerely,

HOOF THOOF

Glenn Inouye – Wheeler Crest Community Service District – Chairman wccsd.info@gmail.com

Thank you for the thorough analysis of the deficiencies of Premium Energy's application in your letter to FERC. My only recommendation is to also send copies to both Senators Harris and Feinstein so they are in the loop, too.

And I appreciate the Board Resolution. You make me and all of Mono County proud of your commitment and hard work!

Jeanne

Mr Stump,

I appreciate everything you and others have worked so rapidly and tirelessly regarding this proposal. Below is a quick write up I sent on to Senators etc.

It is more specifically regarding The Meadow, the 94 (once 110) acre property we own, that is now in The Eastern Sierra Land Trust.

just FYI... thank you agin for all you do! Lee Naylon 3 Orchard Rd, Swall Meadows 307-690-2811

We are writing in response to the Premium Energy proposal to the FERC Docket # P-14984

permit in our area of Swall Meadows, Ca.

As the land owners of The Historical 94 acre "Swall Meadow" we highly oppose this project. Our property is protected by the Eastern Sierra Land Trust, which is a designated Wildlife Habitat; this is the critical migration corridor of The Round Valley Mule Deer. The lush meadow and orchards provide a sanctuary for birds, bears, mountain lions, bobcats, coyotes, and countless other species. It is also a protected habitat for The Wheeler Ridge Big Horn Sheep. This Meadow is a rare and beautiful area in the high desert, that is enjoyed by the neighbors that border it, knowing it will never be developed. It can be viewed from miles away and is an historical landmark. The land is a designated Wet Lands. There are water rights of the multiple springs that come from Wheeler Crest. The property has a fault line the runs across the base of the cliffs of Wheeler Ridge where the proposed penstocks, High Voltage power lines and possible roads would be constructed. The devastating impact of such a project would forever change this spectacular and uniquely protected part of The Eastern Sierra.

Hi Fred & Wendy -

I hope this note finds you both doing well.

In my work as a consultant I looked at your draft letter on the Owens Valley Pumped Hydro Project. It's great.

I just wanted to suggest in your list of CCs that you include the following:

Inyo County Senator Dianne Feinstein Senator Kamala Harris

Now that Inyo County communities (Forty Acres, Rovanna, etc.) are potentially affected I think it would be great if Inyo is copied so the County can begin to consider the impact of this proposal on their communities. I would love to see Inyo County and Mono County take a shared position of opposition to this project in the future.

With regard to Senator Feinstein & Senator Harris I believe that they should be made aware of this project ASAP and briefed on it in person the next time Supervisors visit DC. It would be great to get a letter from our two Senators to FERC expressing concerns about this project and impact to Mono & Inyo counties environment and local communities. I expect they'd be willing to send such a letter once they learn more about this project. Even better would be a joint letter from the two Senators & Rep. Cook.

Thank you! Best, Sally