CITY OF LAKE ELSINORE
DREAM EXTREME

December 1, 2017

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

RE: *FERC Docket No. P-14227-003*
Lake Elsinore Advanced Pumped Storage Project
Request for Additional Studies

Dear Secretary Bose:

In response to the Federal Energy Regulatory Commission's (Commission) October 11, 2017 Notice of Application Tendered for Filing with the Commission and Soliciting Additional Study Requests, the City of Lake Elsinore (City) submits this Additional Study Requests based on the Final License Application (FLA) for the Lake Elsinore Advanced Pumped Storage (LEAPS) project submitted by Nevada Hydro Company, Inc. (Applicant).

The City serves as the local agency responsible for overseeing the health, safety and welfare of more than 60,000 citizens within our municipal boundaries and is the public agency designated by the State of California to serve as the primary caretaker of Lake Elsinore (Lake), Southern California's largest natural lake. The City is also the fee owner of the real property comprising the Lake's basin and holds the exclusive easement to use the Lake's surface for recreation purposes. The Lake is central to the LEAPS project, providing both the water and the "lower reservoir."

The City proposes the following 11 Requests for Additional Studies to the Commission:

Geotechnical

1. Request for Additional Study Updating Geotechnical Reports. The most recent geotechnical analysis is largely contained within three technical reports:

   - Technical Memorandum No. 1 Summary Report of Existing Information on Geology, Seismicity and Geotechnical Issues dated January 25, 2008 (Technical Memorandum No. 1)[1];
   - Technical Memorandum No. 2 Geologic Mapping dated July 17, 2008 (Technical Memorandum No. 2)[2]; and

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- Technical Memorandum No. 3 Technical Memorandum No. 3, Preliminary Evaluation of Faulting and Seismicity dated July 18, 2008 (Technical Memorandum No. 3)[3]

Technical Memorandum No. 2 is the most comprehensive of the three reports and yet indicates at several points that the consultant's opinions are "preliminary." We recognize that, in 2008, there were a multitude of project scenarios with two potential upper reservoir sites and three potential powerhouse locations. However, in that the FLA described a set location for the upper reservoir and powerhouse,[4] the time for delaying these future studies has passed. Accordingly, we request that the following "preliminary opinions" be updated with substantive data gathered by way of additional studies:

- GIL Tunnel: "it is our preliminary opinion that there should be relatively little weathering in the rock encountered at tunnel grades."[5]

- Shaft and Headrace: "It is our preliminary opinion that the rock should be competent and unweathered at the depths of the shaft and tunnel invert."[6]

- Powerhouse: "It is our preliminary opinion that the powerhouse cavern will encounter mafic igneous rock that is extensively jointed but otherwise competent. Roof support by rock bolting will likely be required. Planned exploratory drilling at this location will confirm subsurface conditions."[7]

- Tailrace: "It is our preliminary opinion that the tailrace tunnels will start at the powerhouse cavern in competent rock, then transition in a northeasterly direction into highly sheared and faulted igneous and possibly metamorphic rock, then weathered, sheared and decomposed rock, then granular alluvial deposits, and finally soft saturated fine-grained lake bed deposits."[8]

The author of Technical Memorandum No. 2 echoes the call for updated studies once project parameters are set:

> "Where possible, based on information available at the time of this report, we present preliminary opinions on the surface and subsurface conditions to be considered in the design and construction of the project. Planned subsurface exploration, testing and more detailed studies are needed to confirm those conditions."[9]

Indeed, in 2006, the Applicant made several commitments to conduct additional studies once project siting was set. In response to statements in the then draft EIS concerning the Willard Fault, the Applicant's geotechnical consultant wrote:

> "Detailed fault studies will be performed during a later stage of the project once a site has been selected."[10]

With respect to concerns related to the support necessary for the intake/outtake structures, the Applicant's geotechnical consultant responded:

> "Detailed studies to address this question are planned for a later design stage of the project."[11]

As previously committed to by the Applicant, these additional geotechnical studies should be conducted. The City believes that the participants and methodologies used in the 2008 Technical Memorandums are adequate for the requested additional studies. The studies can be completed in 6 months.

2. Request for Additional Study: Geotechnical Study Evaluating Potential Loss of Water Due to Breach of Lake's Impermeable Clay Liner from Installation of Powerhouse, Tailrace and Intake/Outtake Structures. The Lake sits within a largely impermeable clay and fine silt "bowl." As a result, virtually all of the water loss in the Lake is due to evaporation.[12] Existing Geotechnical studies anticipate that the Powerhouse will be subject to significant groundwater forces. The tailrace and intake/outtake structure will also be within the Lake's natural impermeable basin. Our concern is not with inundation into the Powerhouse, but rather that the Powerhouse itself (installed well below the surface at "bedrock") and pilings into the bedrock to support the tailrace and intake/outtake will in fact breach the "bowl" containing the Lake's water and create a pathway for lake water to escape into deeper aquifers. Such a result would be devastating to the Lake.

   There is no discussion of this in the FLA and it appears to largely be a gap in the hydrology analysis not pairing with the geological analysis.

Aquatic and Terrestrial Wildlife Resources

3. Request Additional Study: Updating Biological Resource Study (FLA, Vol. 5, Appendix E-5): The "Final" Biological Resource Study was prepared by Michael Brandman Associates and is dated August 2003.[13] The study indicates, at page 2-1, that general biological and special status plant surveys were conducted in 2001, 2002 and 2003. Similarly, surveys were conducted in this time frame for the California Gnatcatcher, Lease Bell's vireo, Southwestern Willow Flycatcher. Spotted Owl, Arroyo Toad, and the Red-legged Frog.

   The Applicant acknowledges that it conducted no more than a "desk review" in connection with updating the surveys:

   > "In 2017, Nevada Hydro conducted a desk review to update the potential occurrence of listed plants and wildlife and designated critical habitat in the project area and along the primary transmission line route. This update responds in part to comments submitted to Nevada Hydro by U.S. Fish and Wildlife Service in 2014, in response to a request for comments on the 2007 Final Environmental Impact Statement prepared by FERC for Project P-11858, and in part to more

> recent comments submitted in 2017 by NGOs, stakeholders and the California Department of Fish and Wildlife, filed with FERC in response to the publication of the Notice of Intent to file an original license application for the same project. The most recent field surveys for the LEAPS project area were conducted over a decade ago in 2006, and this update addresses changes in potential occurrence of species and the designation of critical habitat, but does not update the filing with new field data from new studies or surveys. As stated in the proposed PME's for fish, wildlife, and botany, Nevada Hydro proposes to consult with agencies and stakeholders to develop study protocols for surveys to update field data on sensitive species where necessary."[14]

Candidly, there seems to be a lot of "talk" about doing more surveys without any commitment to actually conduct more surveys. The Commission should require the Applicant conduct new surveys and prepare a comprehensive update to the 2003 Biological Resource Study. Time to conduct such surveys is of the essence as the Applicant proposes its application be approved by the Commission by September 2018.[15]

As noted above, the study should be conducted by the Applicant. The City believes that the participants and methodologies used in the 2003 study are adequate for the update. The updated study can be completed in 6 months. The current data is now 14 years old and should be updated.

Water Quality

4. Request of Additional Study: Shoreline Erosion and Turbidity Study. The increased surface fluctuation and turbulence from the proposed intake/outlet will cause increased turbidity in the Lake. We are particularly concerned that Lake turbidity and shoreline erosion could substantially increase because (1) the proposed intake/outlet structure is located directly within the bed of the Lake, so it will necessarily demobilize sediment on the Lake's bottom; and (2) the frequent Lake surface fluctuation will affect shoreline erosion because the shoreline is primarily loamy sand without significant binding vegetation along the Lake's edge.

   Increased turbidity in the Lake poses an acute concern: much of the harmful nutrients in the lake bottom sediment may be resuspended resulting in poorer water quality. Writing in 2006, Dr. Michael Anderson stated that:

   > "while it seems clear that LEAPS will generate substantial turbidity during construction and start-up, the *persistence* of turbidity induced by sediment resuspension from regular LEAPS operation is not clear."[16]

Dr. Anderson's 2006 study (and subsequent follow-up technical memorandums[17]) simply do not address whether the LEAPS project will result in chronic high turbidity in the Lake and the potential devastating impacts to the Lake's ecology if that chronic turbidity foreshadows a continuous release of lakebed nutrients into the water column.

The study should be conducted by the Applicant. Participants in the study should include the Lake Elsinore and San Jacinto Watersheds Authority (LESJWA), the City and the County of Riverside. The study can be completed in 4 to 6 months.

Recreation

5. Request for Additional Study: Recreational Needs. The purpose of a Recreation Needs Study would be to evaluate recreational use information and identify current and future recreation needs within the project area, with specific emphasis on the Lake and the National Forest. The study should identify recreation needs within the project area. The needs analysis should evaluate existing recreation use data, assess the current condition of existing facilities, and identify potential enhancements to meet current and future recreation needs. The results of this study can be used to identify existing and future recreation needs so that thoughtful protection, mitigation, and enhancement measures can be developed in connection with the LEAPS Project.

   The FLA contains a 2002 "National Visitor Use Monitoring Results" for the Cleveland National Forest.[18] Outside of this outdated survey, the applicant has not conducted any investigation in existing or future recreational needs. As a result, the proposed recreational PME's are largely archaic and are decidedly out of step with the community's active recreation values. For example, recreational PME's include "construction of a botanical garden," "powerhouse tours," and "annual fish stocking" without regard to any existing survey or study of recreational needs in the project area.[19] The PME's include an "update use survey" but when? The time to do this study is now before the environmental documents commit to mitigation measures that fail to positively impact the Lake Elsinore community and its visitors.

6. Request for Additional Study: Effect of Daily Lake Elevation Fluctuations on Existing Recreation Facilities. Operations of the LEAPS will result in daily fluctuation of the Lake's surface by 1-foot and weekly fluctuations of up to 1.7-feet.[20] Due to the shallow topography of the Lake, the edge of the Lake will regularly move between 8 linear feet and a 100 linear feet. No studies have been conducted to determine the impact of these daily fluctuations on: (a) commercial boat launch operations at La Laguna Resort, Seaport Boat Launch, and Elsinore West Marina; (b) beach users that may now have to contend with muddy beach areas at Elm Grove Beach, La Laguna Resort, Lakepoint Park and the "T" Peninsula that are historically dry during high use periods, and (c) lakeshore property owners with private boat docks. The areas of study should identify the likely linear fluctuation of the water's edge, determine what if any impacts it may

have to launching operations, and the nature of the surface left from the receding waterline (i.e., will the beach be muddy or will water quickly drain away like a typical sandy beach). Such a study will directly address the project's impact on recreational resources, inform decisions makers, and potentially lead to mitigation measures.

The study should be conducted by the Applicant. Participants in the study should include the City and the County of Riverside. The study can be completed in 4 to 6 months. There is currently no other data concerning the effect of daily lake elevation fluctuations on existing recreation facilities and uses.

Visual

7. Request for Additional Study: Updating and Expanding Visual Simulations (FLA, Vol. 1, Exhibit E, Section E-8.) The base level data (in the form of existing representatives views) contained in Section 8 of the Environmental Report is simply deficient in scope and number for a project of this magnitude. Stretching out for more than 32 miles with interfaces involving an Interstate freeway, a State Highway, residential areas, and national forest, the visual assessments begins with only 12 existing/simulated views. Of primary concern is the project's northern connection. While the view along Interstate 15 of both the transmission lines and the proposed substation will clearly impact the largest number of viewers, we have only been provided with one representative view (which does not include the substation) and one simulation (also excluding the substation). At least three representative views/simulations are required here to show the transmission lines and the substation interface, including the lines leaving the substation and heading towards the Valley-Serrano transmission lines.

   As a secondary matter, we would be remiss if we overlooked the quality of both the existing representative photos and especially, the simulations. The simulations are simply below the standards of a modern EIS and, candidly, is some of the worst we have seen in over a decade. These should be redone to follow current technical methods employed for producing the computer-generated simulation images, including high-resolution digital site photography using a single-lens reflex camera.

   The study should be conducted by the Applicant. Participants in the study should include the City and the County of Riverside to assist in identifying key viewpoints. The study can be completed in 2 months.

Heritage Resource Protection

8. Request for Additional Study: Updating Cultural Resource Assessment (FLA, Vol. 5, Appendix E-6). The Cultural Resource Assessment, in the form of a "Cultural Resource Investigation," was prepared by Archeological Associates in 2003.

The Cultural Resource Investigation (hereinafter, "Investigation") should be updated by the Applicant for three reasons:

- A comprehensive records search should be conducted to determine if more recent (less the 15 years old) data now exist disclosing the existence of cultural resources within the "core area of potential effects" and the "expanded area of potential effect" (as those are defined in the investigation. Cultural resources records searches should be conducted by the Applicant at the Eastern Information Center, located at the University of California, Riverside, to determine the extent of previous cultural resources investigations completed within a 1-mile radius of the proposed powerhouse along with the "north" and "south" substation sites; and within 0.5 miles of the proposed 500-kV transmission line routes and any areas that will be disturbed within headrace/tailrace alignments. Materials reviewed as part of the records searches should include archaeological site records, historic maps, and listings of resources on the National Register of Historic Places (National Register), National Historic Landmarks, California Register, California Points of Historical Interest, and California Landmarks.

- The Investigation failed to conduct any reconnaissance surveys for the over 30 mile segment of transmission lines. The Investigation indicates that such surveys had been postponed until such time as the precise routing/tower locations had been identified. Volume 2, Attachment 1 (Tower Placement, Data Information Tables and Location Information), Attachment 2 (Mile-by-Mile Description), and Attachment 11 (Collaboration Between the US Forest Service, etc.) now provides that precise routing information that was lacking in 2003.

- The Investigation, while referencing brief cultural history of certain Native American groups, failed to consult with any Native Americans as part of the investigation. This is a fatal flaw that needs to be aggressively remedied. Consultation is vitally relevant to the analysis for cultural resources. Concerns raised in consultation are relevant to Native American resources and cultural importance of general geographic areas impacted by the proposed project. We lack any recent correspondence with Native American groups for the proposed project. There is no indication that the authors of the Investigation contacted the Native American Heritage Commission (NAHC). The NAHC provided contact lists of local tribal representatives and information regarding sacred lands located in the areas of the proposed substation and 500-kV transmission line routes.

The FLA indicates that the Applicant has caused to be prepared a "Lake Elsinore Advanced Pumped Storage Project (LEAPS) & Talega-Escondido/Valley-Serrano 500 kV Interconnect Project – Historic Properties Management Plan, FERC No. 11858-002-California" (Chambers Group, Inc. February 2005).[21] The Applicant states that this plan has be kept confidential in order to protect resource locations.

Recognizing that legitimate sensitively, the City nonetheless posits that a management plan is implicitly inadequate when in relies on incomplete or outdated data as is the case here.

A study consistent with this request should be conducted by the Applicant. Participants in the study should include Native American stakeholders. The study can be completed in 6 months.

Road Use/Transportation

9. Request for Additional Study: Updating Construction Traffic Analysis (FLA, Vol. 5, Appendix E-13). The Construction Traffic Analysis, in the form of a "Advanced Pump Storage (Hydro) Project Construction Traffic Analyses" was prepared by Sasaki Transportation Services in *circa* 2003.[22] The Traffic Analysis assumes a 2% increase in traffic annually and then addresses the expected project's impacts in 2010 (which was the anticipated construction time period in 2003). It would seem apparent that none of the data or conclusions contained in this analysis is relevant to the LEAPS Project in 2017 and the proposed commencement of construction in January 2019.

   An updated traffic analysis should identify the affected roadway network in the proposed project area which, in this case, is composed of interstate highways, state highways, and local roads. We believe, based on the temporary aspect of the construction, that Level of Service (LOS) remains the most appropriate metric to identify potential impacts of construction activities on nearby roadway segments and intersections for the proposed project. (LOS is a qualitative measure that characterizes traffic congestion on a scale of A to F, with LOS A representing a free-flow condition and LOS F representing extreme congestion.)

   The study should be conducted by the Applicant. We have not identified a need for additional participants. The study can be completed in 4 to 6 months.

Construction Noise and Vibration

10. Request for Additional Study: Noise and Vibration Assessment of LEAPS Construction Operations. An additional study should be prepared assessing the construction related noise and vibration from construction of the LEAPS. The study should describe the project and the anticipated project noise and vibration, discuss the state, federal and local regulatory frameworks, examine existing conditions (including existing land uses, sensitive receptors, and existing noise) and then prepare an impact analysis with proposed avoidance and minimization measures.

    The study should be conducted by the Applicant. We have not identified a need for additional participants. The study can be completed in 4 months.

Property Values

11. Request for Additional Study: Property Value Assessment. Additional study should be made of the short- and long-term effects of the LEAPS on residential property values from the effects of views and proximity to the proposed substations, powerhouse and transmission lines. In particular, the property values in the area near the proposed powerhouse are rising. It is possible that negative alterations of scenic views and construction of the LEAPS, could adversely affect or even reverse this trend. The analysis should be informed by applied academic and practical literature on the effects of scenic views and transmission lines on property values.

    The study should be conducted by the Applicant. We have not identified a need for additional participants. The study can be completed in 6 months.

Thank you for considering our position on these important issues facing the Lake Elsinore community. We would be pleased to provide addition information on the City's additional study requests.

Sincerely,

Barbara Leibold
City Attorney

cc: Mayor Magee and Members of the City Council
Grant Yates, City Manager
Rexford Wait, Nevada Hydro Company, Inc. (via overnight delivery)

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[1] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 3.

[2] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 2.

[3] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 1.

[4] FLA, Vol. 1, Ex. A, Project Description, A-9 to A-14.

[5] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 2, p. 19.

[6] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 2, p. 19.

[7] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 2, p. 19.

[8] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 2, p. 19.

[9] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 2, Cover letter dated July 12, 2008 (3rd page).

[10] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 6, p. 3.

[11] FLA, Vol. 12, Geotechnical Reports, Chapter [Tab] 6, p. 5.

[12] FLA, Vol. 1, Ex. E, Section 2 [Hydrology and Water Quality], p 14, ("Lake Elsinore is underlain by layers of clay, which greatly impedes the downward movement of groundwater because clay acts as an impervious barrier. Due to the geological layout and the surrounding faults, the Elsinore groundwater basin is essentially a closed groundwater basin.").

[13] FLA, Vol. 5, Technical Appendix to Exhibit E, Appendix E-5.

[14] FLA, Vol. 1, Ex. E, Section E-3, pp. 74-75.

[15] FLA, Vol. 1, Ex. C, p. C-1.

[16] FLA, Vol. 11, Chapter [Tab] 5, p. 7.

[17] FLA, Vol. 12, Chapters [Tabs] 6, 11, and 12.

[18] FLA, Vol. 5, Technical Appendix to Exhibit E, Appendix E-7.

[19] FLA, Vol. 1, Ex. E, Section E-7, p. 25.

[20] FLA, Vol. 1, Ex. E, Section E-2, p. 23.

[21] FLA, Vol. 1, Ex. E, Section E-4, p. 2, fn. 3.

[22] FLA, Vol. 5, Technical Appendix to Exhibit E, Appendix E-13.