

REDACTIONS WERE MADE PURSUANT TO EXEMPTION 4

## **Attachment 1**

**Nevada Hydro's Confidential Response to Additional Information Request Number 6**

Since the issuance of the Commission's January 3, 2018 letter, Nevada Hydro has engaged in numerous meetings and conversations with key parties in the watershed that are intended to reach agreement on a number of issues associated with the LEAPS project that will: (i) achieve the purpose of the LEAPS project to generate hydropower at Lake Elsinore; (ii) improve the quality of water at Lake Elsinore by arranging for the importation of better-quality water; and (iii) enhance the fishery and recreational benefits of Lake Elsinore to the public.

As described below in the context of the proposed agreements in principle, Nevada Hydro is proposing to "pre-purchase" 15,000 acre-feet of water that would be used to fill Decker Reservoir and raise the level of Lake Elsinore by three feet. In addition, Nevada Hydro would enter into a long-term water purchase agreement that would involve purchasing sufficient water to offset the incremental evaporative losses at Lake Elsinore associated with the LEAPS project. Taken together, these water purchases would ensure that the elevation of Lake Elsinore *with* the LEAPS project would always be higher than the elevation of Lake Elsinore *without* the LEAPS project.

Furthermore, Nevada Hydro has been engaged in ongoing discussions with the Total Maximum Daily Load ("TMDL") Task Force, which is a group composed of the responsible agencies and dischargers in Lake Elsinore that work jointly to implement requirements of TMDLs in Lake Elsinore because Lake Elsinore is listed as an impaired waterbody pursuant to Section 303(d) of the Clean Water Act.<sup>1</sup> As described in the Final License Application, the operation of the LEAPS project is anticipated to have the effect of aerating Lake Elsinore much more thoroughly than is the case at present. By increasing levels of dissolved oxygen in Lake Elsinore, Nevada Hydro believes that Lake Elsinore will be able to support substantially larger and more robust populations of warm water fish, which in turn will substantially enhance recreation and fishing at Lake Elsinore.

#### **1.0. The Operational Regime of Lake Elsinore**

Maintaining stable operating conditions at Lake Elsinore is critical for the water quality of Lake Elsinore. However, operation of the LEAPS project would not be affected by variations the water level in Lake Elsinore, even during drought periods. This section provides background information on: (i) the underlying hydrology of Lake Elsinore; (ii) the way that the natural hydrology of Lake Elsinore is being modified by the discharge of recycled water by Elsinore

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<sup>1</sup> / The members of the TMDL Task Force include the following: U.S. Forest Service; U.S. Air Force (March Air Reserve Base); March Joint Powers Authority; California Department of Transportation; California Department of Fish and Wildlife; County of Riverside; Riverside County Flood Control and Water Conservation District; Eastern Municipal Water District; Elsinore Valley Municipal Water District; Western Riverside County Agricultural Coalition; City of Lake Elsinore; City of Canyon Lake; City of San Jacinto; City of Perris; City of Moreno Valley; City of Murrieta; City of Riverside; and, City of Beaumont. The Santa Ana Regional Water Quality Control Board is a signatory to the TMDL Task Force Agreement and serves as an advisory member of the TMDL Task Force.

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Valley Municipal Water District ("EVMWD"); and (iii) the agreements that require EVMWD to manage the elevation of Lake Elsinore within certain established parameters. While maintaining operational control over Lake Elsinore is complicated, for the reasons discussed below, Nevada Hydro will be able to ensure proper operation of the LEAPS project regardless of the actions taken (or not taken) by either EVMWD or the City of Lake Elsinore (the "City") and will contribute to the improvement of water quality in Lake Elsinore by providing additional water supplies for water quality purposes.

Under the terms of the 1991 Agreement to Fill and Operate Lake Elsinore among the City, the Community Redevelopment Agency of Lake Elsinore, and EVMWD (the "1991 Agreement", included in Attachment B-6 in the Public folder), EVMWD has:

*the duty to secure available water to fill and manage the elevation level of water in the Lake at or above approximately 1240 feet . . . . The District [EVMWD] shall regulate the inflow and the outflow of imported water into or from the Lake to manage the elevation level between 1240 feet as a minimum and 1249 feet as a maximum to the extent that these elevation levels are capable of being managed.*

The italicized language is, in essence, a *force majeure* clause that would excuse EVMWD from maintaining the level of Lake Elsinore at 1240 feet or higher during an extended drought.

In 2003, the 1991 Agreement was superseded and replaced by the Lake Elsinore Comprehensive Water Management Agreement among the City, the Lake Elsinore Redevelopment Agency, and EVMWD (the "Comprehensive Agreement", also included in Attachment B-6 in the Public folder). Section 1.1 of the Comprehensive Agreement requires the City and EVMWD, to the extent feasible, to maintain the level of Lake Elsinore at a level of 1,240 feet mean sea level ("msl"), and section 3.1 requires the City and EVMWD to "use their best efforts to implement the provisions herein for the purchase and delivery of Supplemental Water for Lake Elsinore replenishment when the Lake is below elevation 1,240 feet." The Comprehensive Agreement contemplates that the parties would refurbish the Island Wells, which were anticipated to provide up to 5,000 acre-feet of water per year ("afy"). The parties to the Comprehensive Agreement also contemplated that, subject to the availability of funds and other environmental demands, recycled water would be made available by EVMWD when the level of Lake Elsinore dropped below 1,240 feet msl (section 3.5(B)). The Comprehensive Agreement contemplated the LEAPS project where the City specifically "agrees to cooperate with the District [EVMWD] in analyzing and to discuss plans regarding the use of water stored in the Lake to implement the LEAPS project." Thus, even absent the LEAPS project, the City and EVMWD have pre-existing obligations to maintain the level of Lake Elsinore at or above 1,240 feet msl, which is ample for the operation of the LEAPS project.

As noted above and further discussed below, Nevada Hydro intends to purchase an additional volume of water (15,000 acre-feet) that will raise the water level in Lake Elsinore by approximately three feet and to purchase water to account for evaporation on an ongoing basis to ensure that the operation of the LEAPS project does not lower the water elevation in Lake Elsinore below the water level that would otherwise occur in the absence of the LEAPS project. As described in the Final License Application, the operation of the LEAPS project would cause a

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maximum change in water levels of approximately two feet, which means that the three additional feet of water provided by Nevada Hydro would be capable of serving project operations and capable of providing additional water for other users of Lake Elsinore.

### 2.0. Hydrology

The Comprehensive Agreement, in discussing the obligations of EVMWD to acquire water for Lake Elsinore, uses the term “feasible,” and conditions EVMWD’s obligations on the availability of funds and the availability of water for other environmental demands.

A recent analysis of the hydrology of Southern California (see “University of Arizona, Southern California Tree-Ring Study, also included in Attachment B-6 in the Public folder) performed by the University of Arizona for the California Department of Water Resources concluded that: “the 2012-2016 drought was the worst 5-year drought in the past six centuries.” Under such circumstances, therefore, it would not be reasonable to expect EVMWD to maintain water levels in Lake Elsinore above 1,240 feet msl. It is important to note that, even though the elevation of Lake Elsinore dropped below 1,240 feet msl during this drought, Lake Elsinore did not go dry, which it has done twice in the past 85 years. Thus, while not entirely meeting the elevation standards of the Comprehensive Agreement, it seems clear that EVMWD is largely fulfilling its obligation to maintain the elevation of Lake Elsinore, even during the worst drought in 600 years. Importantly, even if water levels were below 1,240 feet msl, as they are currently as a result of an extended drought, the LEAPS project is capable of operating because the intake/outlet facilities will be able to intake and discharge water at a range of water levels, including levels below 1,235 feet msl.

At present, EVMWD is discharging approximately 5.5 million gallons/day (“MGD”), or about 6,160 afy, of treated wastewater into Lake Elsinore. EVMWD projects that, within four or five years, it will be able to discharge its full permitted 8 MGD, or about 9,000 afy, from its wastewater treatment plant. In order to fully offset annual evaporative losses, EVMWD would need to discharge about 14,500 afy or about 13 MGD. EVMWD projects that they will construct another 4 MGD of treatment capacity by 2021, which would bring the total wastewater discharge to 12 MGD, almost wholly offsetting evaporative losses. Thus, by the time the LEAPS project is on-line, EVMWD will be in a position to manage Lake Elsinore elevations almost exclusively through the use of recycled water, which is impervious to drought. In this way, as long as there is at least one wet year between 2018 and 2021 that serves to increase the elevation of Lake Elsinore above 1,240 feet msl, then EVMWD should be able to maintain the elevation of Lake Elsinore at a level wholly consistent with the Comprehensive Agreement.

Confirming these conclusions is recent work by Dr. Michael Anderson of the University of California, Riverside. Dr. Anderson found:

*Annual flows of the San Jacinto River into Lake Elsinore at USGS gage #11070500 for the period 1916-2014 ranged from 0 – 173,711 acre-feet/yr (Fig. 1a), while ungaged local runoff varied from 317 – 8,400 acre-feet/yr (Fig. 1b); protracted drought conditions resulted in a number of years in the 1950’s-1960’s in which the lake was dry. Additional sources of water will be needed to supplement natural flows to maintain an appropriate minimum operating*

level for the lake. Recycled water is a preferred source of water; Elsinore Valley Municipal Water District typically delivers between 4,000 and 5,000 acre-feet annually, with future scenarios considered within the TMDL revision as high as twice that. For example, addition of 9 MGD recycled water when the lake surface elevation drops below 1247 ft above MSL yielded an average elevation of 1248.0 ft and a minimum elevation of 1240.5 ft above MSL for the 1916-2014 time period (compared with a number of years in which the lake was dry).

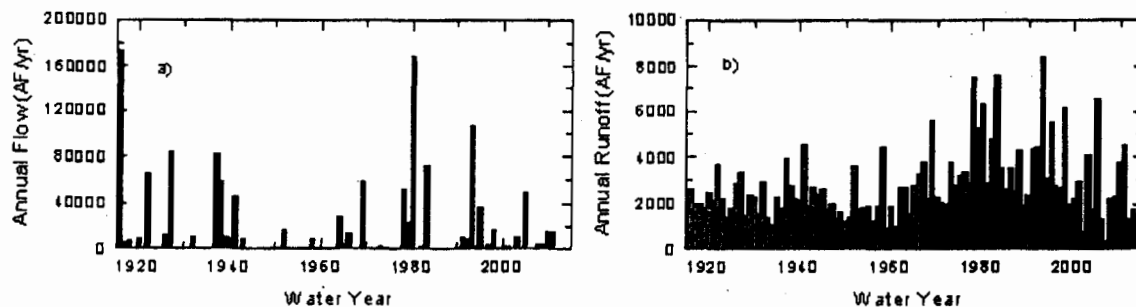


Fig. 1. Annual runoff to Lake Elsinore from (a) San Jacinto River, recorded at USGS gage #11070500, and (b) local runoff estimated from precipitation records.

Dr. Anderson's work indicates that, notwithstanding the historical record of Lake Elsinore's levels receding below 1,240 feet msl for extended periods, future lake levels – which will be supported by recycled water as well as natural runoff – are likely to be higher than elevation 1,240 feet msl and fully adequate to meet the goals of the Comprehensive Agreement and to improve water quality in Lake Elsinore.

Nevada Hydro is now proposing to purchase – on a one-time basis – approximately 15,000 acre-feet for use by the LEAPS project. That quantity of water would be sufficient to fill Decker Reservoir and add approximately 3 feet in elevation to Lake Elsinore. The concept of adding 3 feet of elevation to Lake Elsinore to avoid any adverse impacts on Lake Elsinore is derived from the engineering estimate that the operation of the LEAPS project could induce changes in the elevation of Lake Elsinore of up to 2 feet per day as part of the diurnal pattern. Adding another foot of elevation ensures – with a margin of safety – that the elevation of Lake Elsinore with the LEAPS project will always be higher than the elevation of Lake Elsinore without the LEAPS project. In this way, the LEAPS project will have essentially provided all of the water needed for its operation and provided additional water to improve water quality in Lake Elsinore.

### 3.0. Negotiating Agreements in Principle – Current Status

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#### **4.0. Progress to Implement Plan**

Nevada Hydro requested that Professor Anderson provide a proposal to begin assessing the validity of this plan. A copy of his initial proposal is in Attachment A-6 of the Public File. In his proposal, Dr. Anderson sets out to answer the following questions:

- (i) What are the effects of supplemental water source supply (recycled water, Colorado River water or State Project water) on predicted water quality, including DO, chlorophyll a, nutrient and algal toxin levels?
- (ii) What are the effects of operating level on hydrodynamics and predicted water quality?

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(iii) What are the limnological and hydrodynamic conditions in the upper reservoir during filling, transient storage and release, including heating, cooling, evaporation and sedimentation, compared with Lake Elsinore?

(iv) What I/O design and operational strategy maximizes water quality in the lake while also maximizing energy storage and production?

Nevada Hydro will report back to the Commission on the results of this study, which will require roughly 500 hours to complete.