

# Chapter 1: Proponent's Environmental Assessment Summary

## 1.1 Introduction

### 1.1.1 Introduction to the PEA

The Nevada Hydro Company's (Applicant) proposed project (Project), as now before the California Public Utilities Commission (CPUC or Commission), is made up of two primary components: a Commission-licensed extra high-voltage transmission line for which an application has been submitted for a Certificate of Public Convenience and Necessity (CPCN) and a federally-licensed generation (pumped storage) facility for which an application has been submitted to the Federal Energy Regulatory Commission (FERC or Commission) (FERC Project No. 11858) for a license to construct and operate under the Federal Power Act of 1920 (FPA).

Of these primary components, only the high-voltage transmission line (TL), the associated substations, switchyards, and system upgrades are subject to CPUC jurisdiction. The Applicant does not seek a CPCN for the generation (pumped storage) facility which would be operated in accordance with a federally-issued hydropower license subject to the exclusive jurisdiction of FERC.

While the transmission and generation (pumped storage) components constitute disparate and separate State and federal regulatory processes, in order to ensure compliance with the provisions of the California Environmental Quality Act (CEQA), based on the inherent interrelationship that exists between transmission and generation and the need for other State agencies, including the State Water Resources Control Board, to demonstrate CEQA compliance prior to the issuance of other discretionary approvals for one or both components, both components need to be consolidated under the broad umbrella of a single environmental compliance review. More specifically, construction of the transmission line and ancillary facilities for which the Applicant seeks the CPCN would serve to further the construction and operation of the generation (pumped storage) facility. In order to ensure that environmental considerations are not piecemealed, CEQA stipulates that the lead agency consider the "whole of the action, not simply its constituent parts." Within the meaning of CEQA, the transmission and generation components of the Project constitute the "whole of the action" (14 CCR 15003[h] and 15379[a]).

The transmission component, often identified as the Talega-Escondido/Valley-Serrano 500 kV Interconnect (TE/VS Interconnect), is the subject of the Applicant's request for a CPCN from the Commission. The TE/VS Interconnect is a new approximately 32 mile long, extra high-voltage TL, inclusive of all appurtenant facilities and system upgrades associated therewith, linking Southern California Edison Company's (SCE) existing 500 kV Valley-Serrano transmission system in western Riverside County and San Diego Gas & Electric Company's (SDG&E) existing 230 kV Talega-Escondido transmission system in northern San Diego County.

The generation (pumped storage) component, often identified as the Lake Elsinore Advanced Pumped Storage Project (LEAPS), will be an advanced pumped storage hydropower facility located in western Riverside County and northern San Diego County. LEAPS will pump waters from Lake Elsinore into a new water body to be constructed within the Decker Canyon area of the United States Forest Services' (USFS or Forest Service) Cleveland National Forest –

Trabuco Ranger District (TRD or National Forest), at an elevation approximately 1,500 feet higher than Lake Elsinore. Operating at an efficiency of about 83.3 percent, LEAPS would create an impoundment of kinetic energy allowing stored off-peak power, including wind from the Tehachapi area and geothermal from the Imperial Valley, to be available during peak-hour periods. LEAPS would be capable of providing 500 megawatts (MW) of electricity for up to twelve hours, and have a storage capacity of 6,000 megawatt hours (MWh).

In order to understand why the Applicant's PEA is not confined to those elements which are the subject of the CPCN, that is, why the LEAPS project is part of the "whole of the action" within the meaning of CEQA, it is first important to understand the Project's derivation, the requirements of CEQA, and how those factors dictate the subject of this filing. In September 2000, TNHC, acting in the capacity of co-applicants with the Elsinore Valley Municipal Water District (EVMWD), filed a hydropower license application with FERC under the provisions of the FPA, as codified in Title 16, United States Code (U.S.C.) Parts 791(a)-825(r).

Under Section 797(e) of the FPA, FERC is authorized "[t]o issue licenses to citizens of the United States, or to any association of such citizens, or to any corporation organized under the laws of the United States or any State thereof, or to any State or municipality for the purpose of constructing, operating, and maintaining dams, water conduits, reservoirs, power houses, transmission lines, or other project works necessary or convenient for the development and improvement of navigation and for the development, transmission, and utilization of power across, along, from, or in any of the streams or other bodies of water over which Congress has jurisdiction under its authority to regulate commerce with foreign nations and among the several States, or upon any part of the public lands and reservations of the United States (including the Territories), or for the purpose of utilizing the surplus water or water power from any government dam, except as herein provided: provided, that licenses shall be issued within any reservation only after a finding by the Commission [FERC] that the license will not interfere or be inconsistent with the purpose for which such reservation was created or acquired, and shall be subject to and contain such conditions as the Secretary of the department under whose supervision such reservation falls shall deem necessary for the adequate protection and utilization of such reservations."

In January 2007, acting in compliance with the National Environmental Policy Act (NEPA), FERC and the Forest Service released a "Final Environmental Impact Statement – Lake Elsinore Advanced Pumped Storage Project, FERC Project No. 11858, FERC/FEIS-0191F"<sup>1</sup> (FEIS) addressing both LEAPS and a "transmission line only project." With regards to those facilities, the FEIS identified and described a preferred "staff alternative" which specified general facility locations and a 500-foot wide transmission alignment extending between SCE's Valley-Serrano line on the north and SDG&E's Talega-Escondido lines on the south.

Following the commencement of that federal hydropower licensing process, under its earlier Valley-Rainbow proceedings (A.01-03-036) and in response to a separate high-voltage transmission line proposal from SDG&E designed to interconnect SDG&E's Talega-Escondido

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<sup>1</sup>/ Federal Energy Regulatory Commission, Draft Environmental Impact Statement for Hydropower License – Lake Elsinore Advanced Pumped Storage Project, FERC Project No. 11858, FERC/EIS-0191F, January 2007.

and SCE's Valley-Serrano lines, the Commission identified the "LEAPS transmission line" as functionally and electrically equivalent to SDG&E's Valley-Rainbow Interconnect project. As a result of the Commission's independent studies, the "LEAPS transmission line" was identified by the Commission as a viable network upgrade and not only as a generation interconnection (gen-tie), as initially proposed by the Applicant as part of its original FERC filing.

Because of the location of LEAPS, situated in close proximity to the separate load centers of the San Diego and Los Angeles metropolitan areas, the federal hydropower application included both a northern 500 kV transmission line segment extending northward from the proposed powerhouse to a new 500 kV switchyard to be constructed along SCE's existing Valley-Serrano 500 kV transmission line and a southern 500 kV transmission line segment extending southward from the proposed powerhouse to a new 500/230 kV substation to be constructed along SDG&E's existing Talega-Escondido TL. As indicated in the FEIS, FERC concluded that the California Independent System Operator (CAISO or California ISO) and SDG&E would derive the "maximum benefit" through the construction of both line segments, enhancing reliability, reducing congestion, and improving access. Once so connected, the two transmission line segments functionally take on additional utility and become an interconnection between SDG&E's 230 kV and SCE's 500 kV transmission systems.

The genesis of the "LEAPS transmission line" serving as a regional interconnect was the result of the Commission's independent analysis of SDG&E's Valley-Rainbow project and SDG&E's independent determination that the Applicant's TE/VS Interconnect was functional equivalent to the Valley-Rainbow Interconnection.

In light of the function that the TE/VS Interconnect is to serve – transmission for LEAPS and third parties – a CPCN for this transmission component should be obtained. While stating no position with respect to FERC's licensing authority, it appears that because the TE/VS Interconnect will be part of the transmission grid and not merely a primary gen-tie line for the generator, it is likely outside the scope of FERC's exclusive hydropower-licensing authority. The scope of the required CPCN includes the approval, construction, operation, and maintenance of additional network upgrades, including such additional improvements to the SDG&E and SCE systems as may be required to accommodate the additional power flows that would be created once the pumped storage facility is operational and once the Talega-Escondido and Valley-Serrano transmission lines are interconnected and power can flow between them.

By contrast, the FERC hydropower license is expected to include a northern and/or southern gen-tie. For this gen-tie, TNHC and the EVMWD have jointly submitted two separate special-use permit (SUP) applications to the USFS to allow for the approval, construction, operation, and maintenance of both LEAPS and TE/VS Interconnect on National Forest System (NFS) lands. Similarly, because LEAPS and the TE/VS Interconnect extend across the jurisdiction of two regional water quality control boards (Santa Ana and San Diego), TNHC and the EVMWD have jointly submitted separate 401 water quality certifications applications to the State Water Resources Control Board (SWRCB).

The Forest Services's SUPs, the SWRCB's 401 water quality certifications, and the Commission's CPCN will allow the Applicant to construct such additional transmission and

appurtenant facilities as may be required for the approval, construction, operation, and maintenance of the Project in excess of those works authorized by FERC.

In order to address the “whole of the action” not simply the Project’s “constituent parts,” under CEQA, the Applicant must describe the entire action in as broad a fashion as may be reasonably possible to ensure that its possible environmental effects are fully considered, analyzed, and appropriately mitigated. Similarly, in the same fashion as FERC and the USFS previously worked cooperatively to prepare a single NEPA document, since the Project’s implementation will necessitate discretionary permits and approvals from both the Commission and other States agencies, in order to promote permit streamlining, CEQA encourages the Commission to prepare a single environmental document that can then be used by each of those agencies in fulfillment of their independent CEQA obligations.

As a result, although the Applicant only seeks a CPCN for the TE/VS Interconnect, under CEQA, the Commission is discouraged from segregating the LEAPS and TE/VS Interconnect into separate elements and analyzing each, as if each were to exist in isolation, under separate environmental assessments. Because the Project, therefore, grows in scope beyond the confines of the CPCN, the Commission thus becomes the CEQA Lead Agency and other agencies from whom discretionary permits and approval may be required become Responsible Agencies.

### 1.1.2 Introduction to the Project

The TE/VS Interconnect provides San Diego with access to power from renewable resources and enables the San Diego transmission system to satisfy the reliability requirements of the CAISO. The proposed transmission line will provide a second high-voltage line to the San Diego load center and provide San Diego with access to renewable resources from the Imperial Valley, Tehachapi, and San Geronio regions. Increased reliability will reduce market costs associated with maintaining Reliable-Must-Run (RMR) resources. The TE/VS Interconnect has been designated as a critical Statewide transmission resource in the California Energy Commission’s (CEC) 2007 “Strategic Transmission Investment Plan, CEC-700-2007-018-CMF.”<sup>2</sup>

The TE/VS Interconnect is primarily located on federal lands within the TRD and the United States Marine Corp’s (USMC) Camp Joseph H. Pendleton (Camp Pendleton). The proposed transmission alignment through NFS lands was developed jointly by FERC and the USFS and, to the maximum extent possible, will avoid or minimize impacts to privately-owned property both within and outside National Forest boundaries. As conditioned, the transmission alignment through the TRD has been accepted by the USFS and constitutes an authorized use of NFS lands.

LEAPS provides the State with a variety of cost-effective enhancements, including increased reliability and more efficient use of grid resources through the use of a variety of mechanisms. Grid benefits include the full range of ancillary services, shifting on peak load to off-peak hours, and providing 500 MW of generation near the load pocket. The pumped storage component of the Project allows for the storage of energy produced during off-peak hours for use during peak-demand hours. This production can include off-peak power generated by efficient, baseload

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<sup>2</sup>/ California Energy Commission, Strategic Transmission Investment Plan, Final Joint Committees Report, CEC-700-2007-018-CMF, November 2007.

generation sources, including wind-generation facilities located in the Tehachapi region, geothermal-generation facilities located in the Imperial Valley, and other existing and planned renewable resources located throughout and beyond southern California. In addition, the Project provides 500 MW of regulation and fast responding spin to support grid operations as well as the integration of intermittent renewable resources and 500 MW of storage regulation and load following capability. This, combined with the ability to provide voltage support, will help the grid manager operate an increasingly complex grid in the southern California electrical region. The Project will provide 1,100 MW of reliability under N-1/G-1 contingency conditions to the SDG&E service area.

Because LEAPS can storage off-peak power, including wind and geothermal energy, the facility's operation will further the objectives of California's Renewable Portfolio Standards (RPS) and greenhouse gas (GHG) emission-reduction standards. LEAPS can also forestall the need to construct new fossil fuel-burning power plants. The Project's dispatchable pumping load will enable the most efficient plants on the southern California grid to operate more hours each day. The efficient baseload energy stored during non-peak hours can then be used to displace operation during peak periods of those generation plants that are the least efficient and most costly to operate.

Pumped storage facilities, such as LEAPS, are able to respond rapidly to continuously changing conditions and, thereby, assist in maintenance of system-wide reliability. Pumped storage generation provides unique strategic, operational, and economic benefits, resulting in reduced operating risks, increased total efficiency, increased critical system control and reliability, and providing more value to the ratepayers. Pumped storage is widely accepted as a mature technology with proven reliability and effectiveness. It is currently the only proven and is the most efficient technology available for storage of large quantities of energy.

## 1.2 Major Conclusions of the PEA

Substantial relevant environmental analysis has been conducted at both the federal and State levels for the purpose of assessing the potential environmental impacts associated with the Project, including the analysis found in the FEIS. Because the FEIS represents the independent analysis of the Project by the federal agency with primary responsibility for entitling the generation (pumped storage) component, including its associated transmission lines and ancillary facilities, the Applicant has elected not to substantially modify the contents or findings of that document. The Applicant generally accepts the environmental analysis presented in the FEIS and has agreed to implement those "environmental protection, mitigation, and enhancement measures" (PM&Es) identified therein.

As presented in the "Draft Environmental Impact Report/Environmental Impact Statement – SDG&E Sunrise Powerlink Project, A.06-08-010"<sup>3</sup> (Sunrise DEIR/DEIS), an environmental analysis of the Project has also been conducted by the Commission. Because the Sunrise

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<sup>3</sup>/ California Public Utilities Commission (Aspen Environmental Group), Draft Environmental Impact Report/Environmental Impact Statement – SDG&E Sunrise Powerlink Project, A.06-08-010, January 2008; California Public Utilities Commission (Aspen Environmental Group), Recirculated Draft Environmental Impact Report/Environmental Impact Statement – SDG&E Sunrise Powerlink Project, A.06-08-010, July 2008.

DEIR/DEIS represents the independent analysis of the Project by the State agency with primary responsibility for entitling the transmission component, including its associated system upgrades, the Applicant has elected not to substantially modify the contents of that document. With minor revisions designed to best reflect the Project, the Applicant generally accepts the environmental analysis presented in the Sunrise DEIR/DEIS and has agreed to implement those “additional mitigation measures” identified therein.

As indicated in the FEIS and/or Sunrise DEIR/DEIS, the Project’s implementation will result in one or more significant or potentially significant unmitigable environmental effects. Based on the continuing existence of significant unmitigable environmental effects, the Project will necessitate, under CEQA, the preparation of an environmental impact report (EIR) or equivalent environmental documentation.

Because the Project was thoroughly evaluated in the Sunrise DEIR/DEIS, once that document has been certified by the Commission, the resulting “Final Environmental Impact Report/Final Environmental Impact Statement – SDG&E Sunrise Powerlink Project, A.06-08-010” (Sunrise FEIR/FEIS) could potentially serve to fulfill the Project’s CEQA obligations and provide the environmental basis for both the Commission’s issuance of the CPCN and the SWRCB’s issuance of Section 401 water quality certifications.

### **1.3 Areas of Controversy**

Extensive opportunities have been provided to the general public and to public agencies to present comments to FERC, the Commission, and other parties with regards to the potential environmental impacts attributable to the Project. The totality of the FERC environmental review record, in combination with the information presented in the Commission’s separate administrative record of which the Sunrise DEIR/DEIS is a part, has allowed for a reasonable airing of relevant environmental issues and presents a factual basis for the identification of potential areas of controversy.

Since a substantial portion of the Project is located on federal lands, one often raised area of controversy relates to whether NFS lands should be utilized for the proposed endeavor and made available to a for-profit entity for non-public activities rather than retained exclusively for preservation, conservation, and wildlife protection purposes.

Since reasonable people can disagree, different conclusions can and often are drawn based on each individual’s interpretation of available data, as influenced by personal experiences and other factors. As such, there likely does not exist a universal consensus with regards to the severity of a number of environmental effects (e.g., wildfire hazards), the appropriateness of the thresholds of significance criteria selected, the efficacy of the mitigation measures and other actions proposed in response thereto, and the level of significance of the post-mitigated environment.

Because of high energy costs, a growing segment of the population might be categorized as being disenchanted with energy producers and regulators. As such, there exists an increasing interest by some consumers to be “off the grid.” Many off-the-grid advocates would proposed

no further investment in central plant facilities and transmission lines but rather encourage regulators to redirect efforts toward distributed generation and resource conservation.

With regards to the Project, a number of comments have raised the issue of “one project or two,” focusing on the concern that it is either the Applicant’s intent or the likely consequence of market and other constraints that only the transmission component of the Project will be constructed and that the generation (pumped storage) component will not be built. Because the pumped storage component will necessitate a long-term source of water to operate, the implementation of the FERC project would reasonably be expected to include reasonable guarantees that water levels in Lake Elsinore would be stabilized. The nexus between LEAPS operation and lake stabilization can be established; however, that same linkage does not likely exist if only the transmission facilities were developed. Certain stakeholders believe that the development of the TE/VS Interconnect will result in the creation of significant locally adverse environmental consequences with few offsetting local benefits and that the benefits to the local area can only materialize through the implementation of LEAPS.

#### **1.4 Issues to be Resolved**

Until FERC issues the proposed hydropower license, the precise nature and extent of federal, entitlements cannot be determined. If operating only under the FPA, FERC may be precluded from licensing certain facilities associated with the Project. Conversely, Section 1223 of the Energy Policy Act of 2005 (EPA 2005) (16 U.S.C. 791a *et seq.*) encourages, as appropriate, the deployment of “advanced transmission technologies,” defined as “a technology that increases the capacity, efficiency, or reliability of an existing or new transmission facility, included pumped hydro. In an “Order on Rate Request,” issued November 17, 2006, FERC found that “the LEAPS facility is an advanced technology per EPA 2005.” Since FERC has identified LEAPS as an “advanced transmission technology,” thus blurring, in some way, the distinction between transmission and generation (pumped storage), FERC may elect to include, as part of its own discretionary approval, all or some portion of the TE/VS Interconnect. In the event that FERC does license the entire Project, the implications of that action to pending State permits and approvals would need to be addressed among agencies.

It is noted that FERC and the state in which a FERC-licensed project is located generally do not share the final decision of any issues in a licensing proceeding (*First Iowa Hydro-Electric Cooperative v. Federal Power Commission*). Under the Commerce and Supremacy Clauses of the United States Constitution, the FPA preempts state law that would otherwise apply to FPA-licensed projects, except where the FPA reserves state authority over a specific issue (*Sayles Hydro Association v. Maughn*). The primary exceptions include: (1) water quality certification issued under Section 401(a) of the Federal Clean Water Act (CWA); (2) issuance and regulation of water rights necessary for project operation and to prevent injury to prior water rights (Section 27, FPA [16 U.S.C. 821]); (3) regulation of retail rates for electrical service (Section 16, FPA [16 U.S.C. 812]); and (4) authorization for a state or municipal agency to take over any licensed project, through a condemnation proceeding and on payment of fair-market value (Section 14(a), FPA [16 U.S.C. 807a]). FERC’s actions may preempt the need for the Applicant to secure other discretionary approvals that might otherwise be required absent that federal authorization.

Since the FERC preemption does not appear to include 401 water quality certifications, any CEQA documentation resulting from the filing of this PEA would need to identify the SWRCB as a Responsible Agency. Because that CEQA documentation would extend beyond that which might otherwise be required if the Project were confined to those activities subject to a CPCN authorization, the manner in which LEAPS and TE/VS Interconnect are integrated into a single environmental impact report (EIR) needs to be addressed by Commission staff, working in cooperation with the SWRCB and other State Responsible Agencies.

Although FERC's FEIS identifies the location of specific facilities and the general alignment of the transmission lines, pending FERC's publication of a "Record of Decision" (ROD) and issuance of the federal hydropower license, FERC may elect to authorize any of the alternative facility locations and/or transmission alignments identified in the FEIS.

Presented in this PEA is "whole of the action" as defined by the Applicant, the Applicant's stated objectives, and a reasonable range of alternatives which, if implemented, would allow for the fulfillment, in whole or in part, of those objectives. Under CEQA, one of the issues that remain to be resolved is the choice among alternatives and whether or how to mitigate the Project's significant effects.

## **1.5 Inter-Agency Coordination and Public Outreach**

Following FERC's acceptance of the TNHC's preliminary permit application for filing, the Applicant prepared an "Initial Stage Consultation Document" (ISCD) and conducted an initial scoping meeting on June 12, 2001 to solicit comments concerning LEAPS and its associated transmission facilities. Extensive notification occurred with each successive step in the FERC hydropower licensing and NEPA compliance processes. Commencing on March 19, 2001, a series of community outreach meetings were conducted by the Lake Elsinore Advanced Pumped Storage Oversight Committee (LEAPS/OC) and by the Lake Elsinore Advanced Pumped Storage Oversight Committee Technical Advisory Committee (LEAPS/TAC). The members of the LEAPS/OC and the LEAPS/TAC were appointed by the Board of Supervisors of the County of Riverside.<sup>4</sup>

Prior to the publication of the "Draft Environmental Impact Statement for Hydropower License – Lake Elsinore Advanced Pumped Storage Project, FERC Project No. 11858, FERC/EIS-0191D" (DEIS), FERC released two separate scoping documents, dated August 5, 2004 and January 25, 2005, and conducted public scoping meetings on September 8-9, 2006. Following the publication of the DEIS, FERC conducted additional scoping meetings on April 4-5, 2006. Each of those meetings was noticed as joint NEPA and CEQA scoping meetings. The FERC record includes evidence of extensive outreach efforts, noticing and notification, and public meetings conducted for the express purpose of soliciting comments on the potential environmental impacts attributable to the Project. Those efforts are describe, in part, below.

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<sup>4</sup>/ County of Riverside, District Agenda No. 3.1, Establishment of an Oversight Committee to Review Hydroelectric Plant Proposal – Lake Elsinore Area, December 15, 2000; County of Riverside, District Agenda 3.67, Modification of Oversight Committee Established to Review Hydroelectric Plant Proposal – Lake Elsinore Area, February 23, 2001.

### 1.5.1 Interagency Coordination

The Applicant has met with a wide range of federal, State, and local governmental agencies to discuss compliance obligations, to obtain each agency's comments, concerns, and recommendations, and to identify those discretionary permits and approvals that may be required from those agencies. Permit applications have been filed with and are being actively pursued with a number of agencies, including the Forest Service, the State Water Resources Control Board (acting on behalf of the California Regional Water Quality Control Board, Santa Ana and San Diego Regions), and United States Army Corps of Engineers.

### 1.5.2 Section 7 Compliance

With regards to the Project, documentation of the United States Fish and Wildlife Service's (USFWS) and the National Marine Fisheries Service's (NMFS) compliance with Section 7 of the Federal Endangered Species Act (ESA) has been submitted to the Commission.

### 1.5.3 Tribal Governments

Acting under the provisions of 36 CFR 800.2(c)(4), the Applicant requested FERC and FERC conveyed to the Applicant authorization to initiate consultation under Section 106 of the National Historic Preservation Act of 1966 (NHPA) with the State Historic Preservation Officer (SHPO) and with the Tribal Historic Preservation Officers (THPOs) of pertinent Native American groups on behalf of FERC. The FERC environmental review record identifies the tribal governments that were part of those outreach efforts and the consultation that occurred as a result thereof.

### 1.5.4 Agencies/Organizations Associated with the Project

Presented in this PEA is a listing of those agencies, organizations, and individuals that are or may be associated with the Project. The list includes: (1) the Commission, acting in its capacity as the CEQA Lead Agency; (2) the Applicant; (3) the State and regional environmental clearinghouses; (4) potential Responsible Agencies that will or may be required to take one or more discretionary actions concerning the Project and who may be required to utilize the CEQA Lead Agency's final EIR as part of their own independent deliberations; (5) other federal agencies from whom discretionary permits or approval will or may be required; and (6) Trustee Agencies having jurisdiction by law over those natural resources affected by the proposed Project.

In preparing the list of potential Responsible Agencies, Trustee Agencies, and federal agencies, the Applicant has attempted to be inclusive of all agencies from whom discretionary permits and approvals will or may be required for the approval and implementation of any portion of the Project. Other agencies may, however, be identified as further analysis of the Project is undertaken by the Commission.

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