



**THE HYDRO COMPANY, INC.**

DBA THE NEVADA HYDRO COMPANY, INC.

February 25, 2013

Regional Transmission Group  
**California Independent System Operator**  
250 Outcropping Way  
Folsom, CA 95630

RE: Comments on 2012–2013 Draft Transmission Plan and February 13, 2013  
Transmission Planning Process Stakeholder Meeting

Ladies and Gentlemen:

The Nevada Hydro Company (Nevada Hydro) thanks the California Independent System Operator (CAISO) for the opportunity to submit these comments to the recent Transmission Planning Process Stakeholder meeting and its 2012–2013 Draft Transmission Plan (Draft Plan).

Nevada Hydro has reviewed the Draft Plan, and participated in the February 11, 2013 stakeholder meeting (Meeting). Nevada Hydro noted that the CAISO presented, as an important element of the Draft Plan, the system reliability implications for Southern California's future without the San Onofre Nuclear Generating Station (SONGS). Like others, Nevada Hydro was shocked that SONGS has apparently been so mismanaged and that ratepayers are now facing huge bills and risk of outage while officials determine what to do about the facilities and how the grid is to be managed in the interim.

However, Nevada Hydro was disappointed to see that once again, the CAISO has ignored Nevada Hydro's two proposed projects; projects that the CAISO knows (or should know) could have alleviated this disastrous situation.

So, rather than simply providing its comments on this Draft Plan, Nevada Hydro once again is required to reiterate that:

1. The CAISO has been well aware of the vulnerability of this region for years, a situation now magnified by the loss of SONGS;
2. The CAISO has studied Nevada Hydro's projects and is (or should be) aware of the benefits they provide, particularly in the situation we are now facing; and,
3. The CAISO would apparently feign ignorance and let the region go dark rather than work cooperatively with Nevada Hydro on these cutting-edge projects, which will not only dramatically enhance the reliability of the grid in Southern California, but which will also

provide a state-of-the art resource to facilitate the integration of large amounts of new renewable resources for use in meeting Southern California's energy and capacity needs.

Moreover, with the permanent shutdown of SONGS, which in the light of recent revelations appears likely to occur, the benefits of Nevada Hydro's proposed projects can be demonstrated to be far greater than was the case even a year ago, when the future of SONGS was not in question. Therefore, these comments will describe for the CAISO's benefit (once again) Nevada Hydro's projects, their present status, and the benefits they can provide to the grid, particularly with the loss of SONGS. These comments then conclude with some observations on the Draft Plan presented at the Meeting.

## 1. Nevada Hydro's Projects

The CAISO is well aware that Nevada Hydro is developing two related projects in Southern California:

- The **Lake Elsinore Advanced Pumped Storage (LEAPS)** project is a 500 MW advanced pumped storage facility. The facility was being licensed in Federal Energy Regulatory Commission (FERC) Docket P-11858, and is presently under review in Docket P-14227.
- The **Talega-Escondido/Valley-Serrano 500 kV Interconnect** (the TE/VS Interconnect) project. The TE/VS Interconnect is a 32 mile transmission connection between the service territory of San Diego Gas & Electric Company (SDG&E) and the State's 500 kV electrical backbone that currently terminates in the southern end of the service territory of the Southern California Edison Company (SCE). This project will also connect LEAPS to the Southern California grid. FERC approved rate base provisions for this project in Docket ER06-278. The facility was under permit review in California Public Utilities Commission (PUC) Docket A. 10-07-001. Nevada Hydro will be reapplying shortly for a Certificate of Public Convenience and Necessity (CPCN) for this project under a new docket number. This [link](#) is to the CPUC's web site where Nevada Hydro's application may be found.

LEAPS is located less than 25 miles from SONGS, within the Southern California load pocket. Its southern grid connection is barely 10 miles from SONGS on Path 44 – South of SONGS. LEAPS has an advanced position in the CAISO queue. Nevada Hydro is presently working with SDG&E, SCE and the CAISO to revise and update the Large Generator Interconnect Agreements (LGIA) for the LEAPS facility.<sup>1</sup>

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<sup>1</sup>/ FERC ordered the parties into settlement discussions in connection with a number of LGIA-related filings of SDG&E, SCE and the CAISO in Dockets ER12-1302, ER12-1305 and ER12-1312.

Nevada Hydro has been working diligently for a number of years to advance the projects, including permitting the right-of-way for the TE/VS Interconnect, as well as to address engineering and detailed planning (construction sites, staging areas, etc.) for the projects. For example:

1. In January 2007, the FERC and the United States Forest Service<sup>2</sup> released their "[Final Environmental Impact Statement – Lake Elsinore Advanced Pumped Storage Project](#)"<sup>3</sup> addressing both LEAPS and a "transmission lines only project." In Appendix B of that document, FERC staff included a "Need Determination for the Lake Elsinore Advanced Pumped Storage (LEAPS) Project's Talega-Escondido/Valley-Serrano 500-kV Transmission Line." In this Appendix, FERC staff concluded that the TE/VS Interconnect would be "an appropriate long-term solution to southern California's transmission congestion bottlenecks as well as the transmission constrained, generation-deficient San Diego area."<sup>4</sup> The FEIS also found the TE/VS Interconnect plus the Sunrise PowerLink project (which was recently energized) "would provide additional benefits."<sup>5</sup>
2. The California Public Utilities Commission has completed an extensive CEQA analysis of both projects in connection with its analysis of the Sunrise Powerlink project proposed by SDG&E.<sup>6</sup> This analysis includes a review of the TE/VS Interconnect as a CEQA alternative to the Sunrise project. The TE/VS Interconnect was identified as the environmentally superior transmission project in this proceeding<sup>7</sup>.
3. As ordered by the administrative law judge at the CPUC, Nevada Hydro is preparing to refile its application for a CPCN for the TE/VS Interconnect. This refiling is expected take place within the next 60 days.

Nevada Hydro expects that given the significant amount of data regarding the projects that is already before the CPUC, and the fact that the CPUC has an environmental consultant already working on the CEQA documents that will be needed to be prepared and finalized in

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<sup>2</sup> / As nearly 30 of the total 32 mile length of the TE/VS Interconnect traverses the Cleveland National Forest, the participation of the Forest Service has been instrumental in advancing the projects.

<sup>3</sup> / Federal Energy Regulatory Commission and United States Department of Agriculture – United States Forest Service, *Final Environmental Impact Statement – Lake Elsinore Advanced Pumped Storage Project*, FERC Project No. 11858, FERC/FEIS – 019F, January 2007.

<sup>4</sup> / FEIS at page B–2.

<sup>5</sup> / Ibid.

<sup>6</sup> / In the Matter of the Application of San Diego Gas & Electric Company for a Certificate of Public Convenience and Necessity for the Sunrise Powerlink Transmission Project, Application 06–08–010.

<sup>7</sup> / See "Overall Environmentally Superior Alternative" #3 on page ES–4 of the Final EIS for the Sunrise Powerlink [here](#).

order for the CPUC to approve the projects, the CPUC should be able to complete its work and issue the needed permit(s) within a year after it has a complete application in hand. Moreover, Nevada Hydro will be able to energize the TE/VS Interconnect in one year after the needed permits for the transmission line are in hand. Thus, we reasonably estimate being able to energize and put online the TE/VS Interconnect sometime in 2015, so long as permits are issued by mid-2014, and that LEAPS will be able to come on line by 2018. Given this prudent estimate of project on-line dates, Nevada Hydro will be able to have the TE/VS Interconnect and LEAPS projects operating in real time long before nearly all of the other proposed alternatives that were identified in the CAISO staff's presentation at the Meeting, given the complex engineering and regulatory clearances that all such other projects will necessarily require.

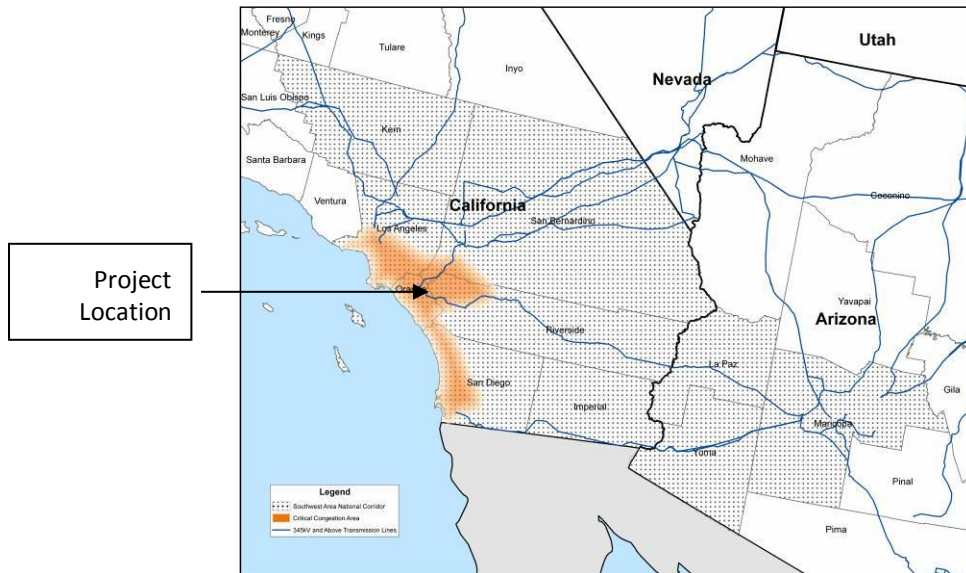
**2. Although the reliability vulnerability of the region has been a concern for years, the CAISO has been unable to find a solution**

Going back at least 15 years, officials have been aware of the vulnerability facing the Southern California region due to the inherent geographic constraints that restrict the ability to move power into the region. The utilities made a single attempt to solve the problem, but were unsuccessful. That attempt, more than 10 years ago, was SDG&E's failed proposal to build the Valley–Rainbow project.<sup>8</sup> Since that project's failure, only Nevada Hydro has proposed projects that can effectively solve the inherent vulnerability of the grid in Southern California.

More recently, Congress directed, through Section 1221(a) of the Energy Policy Act of 2005, 119 Stat. 594, 946-951 (2005) (16 U.S.C. § 824p) (EPAAct), the Secretary of Energy was to identify "any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers" as a National Interest Electric Transmission Corridor ("NIETC"). On August 6, 2006, the United States Department of Energy ("DOE") issued a preliminary "National Electric Congestion Study" (Congestion Study), designating the southern California region as a "critical congestion area" under Section 1221 of the EPAAct. Although the Court overturned DOE's corridor designation for procedural reasons unrelated to the congestion that DOE's study clearly identified, the underlying reliability metrics of the area, and DOE's conclusions thereon, still describe an on-the-ground reality, which is amply reflected in the CAISO Draft Plan. Just below is a map of this corridor, showing the location of LEAPS and the TE/VS Interconnect.

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<sup>8</sup> / Described more fully in Section 3.3.1.



Source: Department of Energy

After DOE identified this serious congestion problem in Sothern California, SDG&E acknowledged the vulnerability of the area when, in its long-term resource plan submitted in connection with its Sunrise Powerlink CPCN application, it identified a need for a second 500 kV transmission interconnection to meet the grid reliability requirements of the CAISO in 2010.

More recently still, the CAISO itself recognized the need for a new 500 kV connection:

*Q. Are there any feasible transmission mitigation solutions that can meet the 650MW to 950 MW need?*

*A. As described above, the constraint driving these needs is the transmission system limitations between the SCE and SDG&E systems south of SONGS. During studies of the Sunrise Powerlink, the ISO studied transmission options to increase the transmission capability between these two systems in order to further reduce local generation needs in San Diego. However, the scope of the upgrades needed to meet a 650 MW to 950 MW need was essentially a new 500 kV line connecting the SDG&E system to the SCE system.<sup>9</sup>*

Curiously (since it was submitted after the SONGS shutdown in late January 2012), this testimony did not address the ramifications of SONGS being off line.

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<sup>9</sup> / Testimony of Robert Sparks on Behalf of The California Independent System Operator Corporation, Application of San Diego Gas & Electric Company (U902 E) for Authority to Enter into Purchase Power Tolling Agreements with Escondido Energy Center, Pio Pico Energy Center and Quail Brush Power, Application 11-05-023, (2012), page 9.

On the afternoon of September 8, 2011, an 11-minute “system disturbance” occurred in the Pacific Southwest, leading to cascading outages and leaving approximately 2.7 million customers without power. The outages affected parts of Arizona, Southern California, and Baja California, Mexico. All of the San Diego area lost power, with nearly one-and-a-half million customers losing power, some for up to 12 hours. The disturbance occurred near rush hour, on a business day, snarling traffic for hours. Schools and businesses closed, some flights and public transportation were disrupted, water and sewage pumping stations lost power, and beaches were closed due to sewage spills. Millions went without air conditioning on a hot day.

While the FERC/NERC Staff report on the outage did not recommend changes to the physical system, Nevada Hydro has concluded that much of the damage that did occur could have been avoided had its TE/VS Interconnect been on line. However, opposition and challenges that these projects have faced provides ample additional evidence of the difficulty of expanding the transmission system in the state, even when such expansions are needed for core system reliability.

### **3. Project benefits have been well documented by FERC, California and the CAISO over a number of years**

Nevada Hydro has demonstrated the reliability and economic benefits of its facilities on many occasions. Independent sources, including the CAISO have confirmed Nevada Hydro’s own view. This section provides a summary of some of these conclusions from FERC, from the State of California, and from the CAISO. This history of positive results lead to the unmistakable conclusion that, by choosing to ignore these projects, the CAISO is simply not doing its job.

#### **3.1 FERC’s Reliability Conclusions**

In November 2006, in accordance with the provisions of Sections 1223 and 1241 of the EPAAct 2005, the FERC identified LEAPS as an “advanced transmission technology,” defined as a “technology that increases capacity, efficiency, or reliability of an existing or new transmission facility.”<sup>10</sup> The FERC stated, “Nevada Hydro has proposed a project that may help meet the needs of the CAISO in managing the grid and serving load.”<sup>11</sup>

In March 2008, the FERC granted certain rate incentives for the TE/VS Interconnect. The premise for the FERC’s action was its finding that, “Nevada Hydro, through independent

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<sup>10</sup>/Federal Energy Regulatory Commission, *Order on Rate Request*, Docket Nos. ER06-278-000 et seq., issued November 17, 2006 (“2006 Rate Order”), at ¶ 27.

<sup>11</sup>/Ibid., at ¶ 26.

evidence provided in this proceeding, has adequately demonstrated that its TE/VS Interconnect project will ensure reliability, consistent with the requirement of Order No. 679.”<sup>12</sup>

In its application, Nevada Hydro relied on “independently supplied reliability studies,” which were prepared by CAISO staff in connection with the CAISO-sponsored planning processes. At that time, the CAISO itself stated, “The transmission line proposed in association with the Lake Elsinore Pumped Storage project would allow the San Diego area to import substantially more power from surrounding areas and would greatly enhance electric system reliability.”<sup>13</sup>

Based on evidence submitted, the FERC concluded that the proposed TE/VS Interconnect

*“ . . . will add another major transmission path into the San Diego area with a potential for increasing San Diego’s import capability including relief on currently limiting Path 43 (North of San Onofre) and 44 (South of San Onofre) while maintaining adequate system reliability and, therefore, satisfy the Commission’s FPA section 219 requirement. In its initial application, [Nevada Hydro] stated that the 2003 STEP Report ‘concluded that a new high voltage electrical transmission line between Riverside and San Diego Counties is critically needed to serve future load growth.’ If built, the TE/VS Interconnect would be the only 500 kV transmission line connecting SCE and SDG&E’s transmission systems.”<sup>14</sup>*

The FERC concluded that the “TE/VS Interconnect project will ensure reliability, consistent with the requirements of Order No. 679”<sup>15</sup> and that the proposed transmission project “is not routine in nature, but will provide a critical link between two major transmission corridors in California, linking the San Diego basin to the main CAISO grid.”<sup>16</sup>

### **3.2 Conclusions of California**

The State of California has also developed its independent view of the potential benefits of these projects. As required by state law, (Section 25324 of the State’s Public Resources Code), the California Energy Commission (“CEC”) adopted a strategic plan for the state’s electric

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<sup>12</sup>/Federal Energy Regulatory Commission, *Order on Rate Incentives and Compliance Filing*, Docket Nos. ER06-278-000 et seq., issued March 24, 2008 (“2008 Rate Order”), at ¶ 27.

<sup>13</sup>/ *Motion to Intervene and Comments of the California Independent System Operator Corporation in Support of Lake Elsinore Advanced Pumped Storage Project*, Docket No. P-11858-002, at 3 (Apr. 2, 2004).

<sup>14</sup>/2008 Rate Order, at ¶ 26.

<sup>15</sup>/Ibid., at ¶ 27.

<sup>16</sup>/Ibid., at ¶ 57.

transmission grid. That plan identified and recommended actions required to implement investments needed to ensure reliability, relieve congestion, and meet future load growth.

In the Joint Committee Report prepared by the CEC concerning the “Strategic Transmission Investment Plan” for the 2007 Integrated Energy Policy Report Proceeding (06-IEP-1F), the CEC Electricity Committee found that “[b]oth the transmission and generation that comprise the LEAPS project could provide significant benefits to California”. The project (both LEAPS and TE/VS Interconnect) were among the five new transmission projects recommended for the 2007 Strategic Plan.

The TE/VS Interconnect has been designated as a critical statewide transmission resource by the CEC since its 2007 Strategic Transmission Investment Plan, CEC-700-2007-018-CMF.” In that report, the CEC advised that this, and other recommended projects “are strategic resources that require specific, swift, and priority consideration by state regulators.”

### **3.3 CAISO Findings**

Over nearly a decade, three separate CAISO-sponsored planning processes reviewed and found value in Nevada Hydro’s projects. It is important to note that over this long period, the CAISO was aware of the need and continued to find value for the project. A summary of these findings follow.

#### **3.3.1 The Valley-Rainbow Board Approval**

In 2001, CAISO staff, in a memo and presentation to the Board, recommended approval of SDG&E’s Valley-Rainbow transmission project. In the material provided to your Board on this project, staff noted the controversy surrounding the route SDG&E had proposed, and suggested that SDG&E pursue the TE/VS Interconnect route (referred to as “the forest route”). At that time, CAISO staff had concluded that the TE/VS Interconnect was (and remains) electrically identical to the Valley-Rainbow project. The Board approved the project, and its approval was not tied to a specific project, route or sponsor. In its resolution approving the project, the Board noted that “a 500 kV project such as the Valley Rainbow project,” is needed”. SDG&E chose not to follow-up on this suggestion to pursue other routes. Since there appears to be no language in the CAISO Tariff that causes Board decisions to “expire”, Nevada Hydro believes that this Board action had the effect of approving the TE/VS Interconnect, as well as the failed Valley-Rainbow project.

#### **3.3.2 The Southwest Transmission Expansion Plan**

A few years after the Board’s action in connection with the Valley Rainbow proposal, the Southwest Transmission Expansion Plan (“STEP”) was established to plan, coordinate, and implement “a robust transmission system among Arizona, Nevada, Mexico, and southern



California.” Nevada Hydro was asked by the CAISO to participate in the STEP process, and Nevada Hydro did so.

As part of the STEP process, the CAISO was the focus for transmission planning activities for California projects. The two California projects of interest to STEP were the TE/VS Interconnect and Sunrise (then known as Imperial Valley-San Diego Expansion Plan or ISEP). In 2004, the CAISO Grid Planning Department published findings in which it detailed the reliability benefits of each project and the additional benefits to be realized if the two projects were combined.

Nevada Hydro contends that the STEP study updated and reaffirmed the CAISO Board findings in Valley Rainbow. This study showed both the reliability and economic benefits associated with each project, and the additional benefits if both projects are built.

### **3.3.3 CAISO South Regional Transmission Plan**

In 2006, the CAISO commenced the CAISO South Regional Transmission Plan (“CSRTP”). CSRTP studied the three proposed southern California projects: Sunrise, Tehachapi, and both the LEAPS pumped storage facility and the TE/VS Interconnect separately. The three sponsors (SDG&E, SCE, and Nevada Hydro, respectively) were required to participate. Other interested parties participated as well.

An August 31, 2006 memo to the CAISO Board stated: “The LEAPS Project consists of a 500 kV transmission line project . . . that would connect SCE’s transmission system with that of SDG&E’s (LEAPS transmission line) and is accompanied by a 500 MW pumped storage power plant built next to Lake Elsinore (LEAPS power plant) and connecting to the LEAPS transmission line.” A September 19, 2006 presentation demonstrated the economic benefits of the TE/VS Interconnect as a stand-alone project (and including Sunrise in the base case analysis). The studies performed under CSRTP, reaffirming STEP findings, showing the combined value of both TE/VS Interconnect and Sunrise to be higher than the benefits of each project individually. However, at that time, CAISO Staff chose not to take the project to the CAISO Board, because staff felt that it needed the FERC to decide on the treatment of the LEAPS pumped storage facility (which FERC has since provided).

### **3.4 Conclusion**

The above historical excerpts make it clear that the CAISO knows Nevada Hydro’s projects well, and that it is well aware that the state would not be facing the precipice now before it as a result of the likely permanent shutdown of SONGS had the CAISO supported, rather than opposed, construction of these projects.

#### 4. Comments on the Draft Plan

The presentation at the Meeting showed that the absence of SONGS has a potential impact on the entire Southern California area, especially for the Category C loss of both 500 kV lines west of Imperial Valley. Indeed, the CAISO staff emphasized that in their mid-term (2018) study of these issues, the elements of the long-term plan for SONGS replacement should be initiated immediately to help mitigate future unplanned extended outages.

According to the CAISO staff, the key issue behind this urgency is that the loss of SONGS creates transmission impacts (thermal overloading, voltage instability) in the Los Angeles Basin and San Diego Local Capacity Requirement (LCR) areas. The CAISO projects that, to make up the gap left by the absence of SONGS, the following will be required:

- Over 1,400 MVAR fast acting static VAR compensator (SVC) support in the area of interface between SCE and SDG&E;
- Over 1,120 MW of new or replaced gas-fired generation; and that,
- The system will continue to have to rely on voltage support via synchronous condensers at Huntington Beach until other voltage support equipment can be installed elsewhere.

While the difficulty of trying to place these projects in the area is itself enormous, there are other generation difficulties in the LA Basin. The path to resolving the SONGS problem must also be carried out while the existing gas-fired generators along the coastline are to be revamped to meet once through cooling regulation requirements. This, in some cases, will involve shutting down existing power plants in the area in order to remove them and build replacements. Nor is there any promise that the total of generation from any of these plants, whether new or changed, will add up to the total that existed prior to the beginning of the SONGS shutdown.

Among the long-term solutions to the loss of SONGS is a theoretical (at best) proposal to construct a 65-mile 500 kV line from Alberhill to Suncrest. Nevada Hydro does not believe that this proposal will adequately address SONGS-related issues. Moreover, this theoretical project will be much more costly than the TE/VS Interconnect. No one can guess at the difficulties to be faced to permit this route, Notwithstanding this, the CAISO was not, and could not be, specific as to how it proposes to fill these gaps within the timeframe assessed. That planning, as a fully transparent and open-participation process, should begin immediately, given that another southern California area blackout could be the consequence of delay. Southern California residents and ratepayers can only hope that somehow a timely remedy will be found to patch these huge gaps at a cost that will not punish ratepayers for the lack of foresight by the utilities and the CAISO.

Another issue that was not, but needs to be, addressed in the planning process as soon as possible is the ratings for Path 43 and Path 44. In Nevada Hydro's view, the present ratings in

the absence of SONGS are as useful as buggy whips. The revamping of measurements for import capabilities that use these path ratings must reflect current realities. The understanding of the transfer capabilities between the two utilities must be brought up to date immediately so that continued reliance on outdated conditions is not used.

#### **4.1 Nevada Hydro's Projects are the ONLY real solution to the SONGS crisis**

Nevada Hydro unfortunately was not surprised to note the complete absence of any reference to its projects as potential solutions to the crisis the CAISO described at the Meeting. The CAISO's apparent blindness to Nevada Hydro's projects and their demonstrated benefits simply makes no sense, but clearly reflects the continuing discriminatory treatment by the CAISO of Nevada Hydro and its projects. Further, this blindness does a disservice to both the businesses and residents of Southern California who depend on a reliable grid and who count on the CAISO to identify and promote the best and most cost-effective projects.

LEAPS is a key project that has been before the CAISO since the middle of the last decade. It will help alleviate the resource constraints that are posed by the loss of SONGS in a more effective, more timely and less costly way than the other resources that are suggested in the Draft Plan and in the presentation that was made at the Meeting.

The CAISO is or should be aware that LEAPS and TE/VS Interconnect projects will provide numerous system benefits including:

- 500 MW of **highly flexible and fast-ramping generation**
- A dramatic increase in the ability of the Southern California grid to absorb and **integrate variable renewable generation**, especially the absorption of off-peak resources and surplus wind energy that would otherwise have to be curtailed
- 500 MW of **carbon-free electrons**
- **High quality MVARs** at a cost that would be roughly half that of static VAR compensators
- **Local capacity** in that portion of the SCE load pocket that would be most highly impacted by the loss of SONGS
- **Potential congestion relief on Path 26**
  - That would not trigger the limitations of the SCIT nomogram
  - At a cost that would be significantly less than the Delany-Colorado River line that the CAISO proposed to approve as part of the current transmission plan
- A **new 500 kV line connecting the SCE and SDG&E** service territories that the CAISO now recognizes is needed

- A dramatic **enhancement in overall system reliability** in southern California

LEAPS and its TE/VS Interconnect will provide reliability improvements at both its north and south ends. However, the far more important value-added of LEAPS is its electrical proximity to the SONGS transmission. Talega is only a few miles north of SONGS. Thus, in terms of real power (megawatts) and reactive power (megavars), LEAPS and the TE/VS Interconnect are THE replacement for SONGS.

Advanced pumped storage is a valuable system asset. The CAISO should note that LEAPS, like all advanced pumped storage facilities:

- Is dispatchable in 15 seconds (with units spinning);
- Provides black start in 10 minutes;
- Provides full range of ancillary services; and,
- Provides regulation, load following and voltage support.

There is no such capability in Southern California. Fast starting, quick reversal between pumping and generating, and very high ramping rate capability provides power system operators with a tool for system control like none other. The location of LEAPS in the grid is also a significant advantage when coupled with TE/VS Interconnect transmission. Moreover, the project's phase shifters will provide discrete flow control.

One of the major problems with the disappearance of SONGS is the lack of voltage support in a critical area of the LA Basin. The increased flows on the 230 kV system from north to south, running at high percentage of the area's line ratings during high load periods, causes big increases in reactive power loss. The TE/VS Interconnect, at 500 kV, has much lower reactive power loss for the same flow rate than does the equivalent 230 kV line(s). In addition, LEAPS provides reactive support along the way.

The LEAPS project will also facilitate significant additional power transfers between SCE and SDG&E. There is no existing 500 kV connection between the SCE's and SDG&E systems. The September 2011 blackout clearly shows the need for power transfers under major contingencies that cannot be managed by the existing 230 kV lines. 500 kV interconnections are needed to handle problems caused by 500 kV contingencies. The size of both utilities' systems has grown to such a point that 230 kV lines are no longer adequate to the task of inter-utility flow management. The limits of flow management efforts at 230 kV have now been exceeded. This situation has become even more tenuous with the need to push the supply locations back from the coastal areas, where the existing generation is likely to be significantly reduced as a result of once through cooling regulation limits.

As Nevada Hydro has stressed in a variety of venues, with or without SONGS operating, these projects can bring 1,100 MW of reliability to San Diego under normal operating conditions and can transfer 1,800 MW during emergencies. **In addition**, the projects can:

- Provide a reliability substitute for most of the SONGS facility (1,800 MW); and,
- Prevent system collapse during usual NERC and CAISO testing requirements. (Our modeling shows that absent LEAPS plus the TE/VS Interconnect, the system will collapse at high load conditions even if SONGS Unit 2 is running.)

Further, the TE/VS Interconnect can be in operation one year from “go,” realistically by mid-2015.

Finally, Nevada Hydro will construct LEAPS and its associated transmission for roughly \$1.5 billion, whereas as the CAISO has noted, the alternatives that would substitute for LEAPS as SONGS replacements are likely to cost at least twice as much.

The CAISO's staff's presentation at the Meeting concluded with the thought that resource requirements, such as planning reserve criteria and flexible resource needs, require further study in the 2013-2014 transmission planning cycle. LEAPS can be on-line in the mid-term focus of the Draft Plan. It is therefore incumbent upon the CAISO to wake up to, and take seriously, the important system benefits that the LEAPS and TE/VS Interconnect projects can provide and to actively include these projects as a key element in the set of SONGS-replacement resources that will be under consideration in the 2012-2014 planning cycle. This is particularly important, as most of the resources identified in the Draft Plan are not as far advanced in their development as in the TE/VS Interconnect and LEAPS projects.

Nevada Hydro looks forward to working cooperatively with the CAISO to avoid more future unplanned extended outages.

Sincerely,

David Kates