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California Independent System Operator Corporation

250 Outcropping Way
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RE: Comments on Draft 2018-2019 Transmission Plan

Dear CAISO Planners:

The Nevada Hydro Company ("Nevada Hydro") appreciates the opportunity to provide the following comments regarding the Draft 2018-2019 Transmission Plan ("Plan") as published by the California Independent System Operator's ("CAISO") on February 4, 2019 as part of the CAISO's 2018-2019 Transmission Planning Process ("TPP"). As the CAISO is aware, Nevada Hydro is the sponsor of the 500 MW Lake Elsinore Advanced Pumped Storage ("LEAPS") project (FERC Project No. 14227) which was submitted into the Request Window for this and previous planning cycles. As you know, we have several concerns with the conclusions in the Plan:

- The application of the CAISO's planning tariff to LEAPS as compared to other transmission projects,
- The failure to recognize all of the benefits that LEAPS can provide to the grid; benefits that the CAISO has previously identified, and
- The failure to fully explain the bases for the assumptions used and the results found.

In addition to the comments below, detailed comments on the Plan's assumptions, methods, and conclusions is contained in the Attachment hereto. We would also welcome another opportunity to discuss the following with you further.

1. The Plan does not appear recognize FERC's finding that LEAPS qualifies under federal law as an "advanced transmission technology." If studied as a transmission asset, please identify each reliability need for which CAISO studied LEAPS as a potential solution and the results of the analysis explaining why CAISO did not select LEAPS as a reliability solution. Please confirm that CAISO also studied LEAPS in the Plan as an "economic transmission" project.
2. The Plan also does not explain how the conclusions regarding LEAPS are consistent with the Federal Energy Regulatory Commission's ("FERC") Policy Statement

governing the treatment of electric storage as wholesale transmission facilities for planning and cost recovery purposes under the Federal Power Act. Please explain how the CAISO applied the FERC Storage Policy Statement to its assessment of LEAPS in the Plan.

3. The CAISO told FERC that it “has committed to studying LEAPS as a transmission proposal, both as a means to address reliability needs . . . and as an economic planning study request.” Nevada Hydro Co., Inc., 164 FERC ¶ 61,197, at P 23 (2018). FERC cautioned that “We expect CAISO will adhere to this commitment.” *Id.* This commitment entailed evaluating whether LEAPS will (1) solve identified reliability violations within the CAISO’s transmission planning horizon, and (2) meet the criteria for an economic transmission project by evaluating system benefits under the five-part Transmission Economic Assessment Method (“TEAM”) that CAISO has long applied to its evaluation of transmission proposals. The Plan does not appear to meet this goal, and thus falls short of the CAISO’s promise to FERC.
4. The Plan does not appear to quantify benefits provided by LEAPS that CAISO has counted for other transmission projects offered into the Plan. As one example, the CAISO identifies for “informational” purposes significant PCM cost reduction benefits to the entire WECC region resulting from the LEAPS project (as it typically does for economic transmission projects), but limits the quantification of benefits from LEAPS to only those estimated for the CAISO sub-region of WECC. Please explain why CAISO did not count benefits accruing to the entire WECC region for LEAPS when it does so for other transmission projects and whether the CAISO is no willing to correct this disparate treatment.
5. The CAISO’s calculation of LCR benefits for LEAPS is inconsistent with the CAISO’s study quantifying locational capacity resource (“LCR”) needs in other transmission studies and the recent CAISO contracts entered into for LCR capacity needs. (See attached ZGlobal analysis.)
6. The CAISO has completed two recent Special Studies of pumped storage hydro (“PSH”) in Southern California in order to advise the CPUC on the value of PSH to California customers and concluding that PSH provides indispensable benefits to California ratepayers in light of California’s increasing renewable portfolio standard (“RPS”), including LCR benefits. The CAISO described the assumptions in those studies as overly conservative. Since CAISO’s earlier studies, California has in Senate Bill 100 (“SB 100”) increased the RPS requirement from 30% to 60% by 2030 and 100% by 2045. Please indicate what assumptions are driving the dramatically different results in the TPP study.

7. We also request that the CAISO reconcile the benefit calculations in the two recent Special Studies performed for the CPUC with the current benefit calculations pertaining to LEAPS in the Plan. The Plan does not seem to make clear the rationale supporting the use of these different assumptions that have produced the different results.

As CAISO is aware, FERC's transmission planning process places a premium on comparability and transparency and these principles are incorporated in CAISO's Tariff. The answers to questions provided above are necessary for Nevada Hydro to properly assess whether the Plan has adequately complied with these tariff requirements.

Again, Nevada Hydro would welcome the opportunity to discuss these comments further with CAISO Planning staff.

Sincerely,

David Kates

David Kates

2018-2019 TPP Comments Attachment

Prepared by ZGlobal for Nevada Hydro

Issues with Using CPUC Default Portfolio in Production Cost Modeling for the Economic Assessments

- The assumed operation of gas-fired generation in the default portfolio no longer complies with California state policy (60% RPS by 2030, 100% carbon free by 2045 and aggressive MMT targets). Further this portfolio does not reflect LSE procurement expected in the planning horizon as now observed in the Hybrid Conforming Portfolio being recommended by CPUC as the Preferred System Plan in the 2017-2018 IRP. Moreover, as pointed out by ISO on page 456 of its Draft 2018-2019 Transmission Plan, “the CPUC not only made changes to the selection of new resources, it also retired all gas-fired thermal generation resources that are 40 year or older.” As a result, by using the outdated Default Portfolio, ISO’s economic assessments are not adequately quantifying the true production cost benefits of LEAPS.
- Default Portfolio: The ISO’s study reflect that the transmission benefits for ISO ratepayers produce a negative Production Cost results for LEAPS. Table 4.9-40 – Option 1b and Option 2 show negative production cost benefits of negative (-) \$31 million and (-) \$34 million respectively. This results in ISO concluding that LEAPS has no economic value as a transmission service. The ISO offers in a note under table 4.9-40 that it excluded \$73 million of production cost benefits that are from market revenues from LEAPS. When included, the net production cost benefits for LEAPS is positive \$42 million and \$39 million for Option 1b and Option 2 respectively (Table 4.9-44). Please explain why it is appropriate to reduce the production cost benefits of LEAPS in this way.
- Hybrid Conforming Portfolio: However, in their special study (Chapter 7) using the HCP and different software (PLEXOS), they conclude that 500 MW pumped storage results in ISO production cost benefits of \$51 million. The HCP appears to increase the production cost benefits of LEAPS between \$9 and \$12 million. Is this correct? Can ISO explain the drivers for the increase?

Retirement of Gas-fired plants:

- As mentioned above, the Default Portfolio used in ISO TPP has gas fired plants running and hides the value that LEAPS has to support reliability, system and flexible capacity needs. Would ISO be willing to consider in its economic assessment additional sensitivity scenarios that assess the value LEAPS to eliminate,
 - a) The need to rely on local gas-fired generation used in operational procedures to mitigate local reliability issues,
 - b) Reliance of gas-fired resources to provide system and flexible capacity.

This seems consistent with ISO statement that it “...recognizes that additional coordination on the long-term resource requirements for gas-fired generation for system capacity and flexibility requirements will need to take place with the CPUC through future integrated resource planning

processes.” However, we feel that ISO can do more to advance long-lead time solutions such as LEAPS in its TPP studies done in this cycle to quantify this value in its TEAM and recommend value-added transmission solutions that will support future reliability needs for the state’s policy directives. It seems that ISO is in the best position to identify this value now in order to assure long lead time solutions such as LEAPS are constructed and ready for operation when gas-fired plants are retired or are no longer viable to run because of state policy objectives and laws (SB100).

No Quantification of RPS Overbuild Cost Savings:

- ISO’s TEAM analysis does not capture LEAPS benefits to reduce overbuild. TPP is the appropriate study to assess the transmission solution benefits of enabling the selection of a more efficient capacity procurement mix that reduces overbuild. This was demonstrated by CAISO in its Special Studies conducted in their 2017-2018 and 2016-2017 cycles where between \$29 and \$73 million dollars of RPS overbuild savings can be realized with 500 MW of Pumped Storage. This is a TEAM benefit that was ignored by ISO but allowed under TEAM principles per its methodology document, page 22 Section 2.5.5, “When there is a lot of curtailment of renewable generation, extra renewable generators would be built or procured to meet the goal of renewable portfolio standards (RPS). The cost of meeting RPS goal will increase because of that.”

LCR Price

ISO’s study undervalues LEAPS benefit to provide LCR capacity to San Diego area. The ISO acknowledges that it uses conservative assumptions and has changed its perspective compared to last year’s studies. The LCR price used in this year’s TPP is a reduction of between \$56,640/MW-Year (High) and \$24,780/MW-Year (Low).

Last year’s study San Diego Area LCR benefit price range: \$75,720/MW-Year (High) and \$37,860/MW-Year (Low) (or \$6.31/kW-month and \$3.155/kW-month respectively)

This year’s study San Diego Area LCR benefit price range: \$19,080/MW-Year (High) and \$13,080/MW-Year (Low) (or \$1.59/kW-month and \$1.09/kW-month respectively)

This is a reduction of \$56,640/MW-Year and \$24,780/MW-Year respectively.

From page 253, 2017-2018 Board Approved Transmission Plan:

The price of San Diego area generation capacity in 2018 based on the Capacity Procurement Mechanism (CPM) price set out in the ISO tariff is the applicable monthly soft offer cap of \$6.31/kw-month. This results in a \$75,720/MW-Year price for this capacity. The full value can be used as an estimate of the high end of the range of benefit provided by a reduction in local capacity requirement. Recognizing that local capacity in the San Diego-Imperial Valley area could also provide other benefits such as flexible generation, a reasonable low end of the benefit is half of the local capacity price, or about \$37,860/MW-Year.