Stakeholder Comments on
2012-2013 Transmission Planning Process Stakeholder Meeting
11-12 December 2012

Submitted by	Company	Date Submitted
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Critical Path Transmission thanks the CAISO for the opportunity to submit these stakeholder comments on the recent Transmission Planning Process Stakeholder meeting.

AV Clearview's project sponsors are sensitive to the fact that CAISO planners seek to constrain their considerations to projects that meet the minimum reliability and deliverability needs identified within the base case analyses. We also recognize that the proposed cost of the minimally adequate upgrade is one viable metric for evaluating alternatives.

Simultaneously, we expect that those who must adjudge the efficacy of the CAISO planning process, either formally (e.g. the CPUC through the CPCN and rate case processes), or informally (e.g. the CEC, industry groups, ratepayer advocates, and the Legislature) will be expecting the CAISO to select grid upgrades which best serve interests of the grid and the ratepayer in terms of reliability, deliverability, RPS goals, jobs, growth, and long-term costs. In these considerations, the proposed cost of a minimally adequate upgrade is only one of a multitude of considerations in the net benefit of a proposed upgrade.

It is with this understanding that we provide the comments below, suggesting a balanced approach to comparative evaluation consistent with the CAISO tariff. These comments preview many of the technical analyses that AV Clearview's project sponsors will be providing to CAISO and CPUC staff in the coming days.

Critical Path's Comments can be summarized into the following topic areas and are detailed starting on the following page:

<u>Evaluation Metrics</u>

1. Basis of comparison between Coolwater-Lugo and AV Clearview
2. Comments regarding criteria for comparison of transmission elements and suggested methodology to derive their value

<u>Assumptions</u>

3. Comments on the data shown in the CAISO presentation:

4. Comments regarding the incumbent PTO's ability to construct the South of Kramer Project in a timely manner
5. Comments regarding history of PTO cost overruns.

Conclusion: It is evident from the CAISO planning process that South of Kramer upgrades will be required in order for California to meet its RPS goals. As detailed on the following pages, based on the CAISO tariff, it is our assertion that an analysis that incorporates true ratepayer benefits and costs clearly favors the AV Clearview Transmission Project for inclusion in the 2012/2013 draft statewide plan as a Category 1 transmission element, and as the preferred South of Kramer solution.

Comment 1: Comparing the AV Clearview Project vs. SCE South of Kramer / Coolwater-Lugo Project

Section 2.4.6.6 (e) of the CAISO tariff states "The CAISO will determine the need for, and identify such policy-driven transmission upgrade or additional elements that efficiently and effectively meet applicable policies under alternative resource location and integration assumptions … the CAISO will consider … to the extent to which the transmission element will be needed to meet Applicable Reliability Criteria or to provided additional reliability or economic benefits to the ISO grid…"

We are consistently reminded by CAISO that the Coolwater-Lugo project is the 'subject of an executed LGIA' and was therefore included as a base case project in the 2011 CAISO Statewide Plan. We note, however, that as configured this line is expected to serve a total of 500-700 MW of new renewable generation from a multitude of projects (many notional), but driven entirely by California's statutory *policy* objectives.

As such, we believe it is the CAISO's intention, as well as the expectation of the ratepayers and their formal and informal advocates, that proposed upgrades in this Western Mojave region be evaluated as *competing* policy projects.

In the coming days, AV Clearview's project sponsors will be delivering detailed comparative analyses of the reliability and economic benefits of the competing 'South of Kramer' solutions. These analyses will verify, as indicated in the CAISO's December 11 briefing, that AV Clearview provides all of the minimum required reliability benefits to the regional grid (similar to SCE's Coolwater-Lugo project). As such, at a minimum, we propose that AV Clearview belongs in the plan on *equal footing* to the Coolwater-Lugo line until such time as a more detailed cost-estimate comparison is completed in January. (See also Comment 5, below.)

In addition, Critical Path will provide net-benefit estimates based upon useful comparative metrics of the sort we expect to be vital to both policy makers and ratepayer advocates.

Comment 2: List of Economic Benefits to be included in Evaluation/Comparison and suggested methodology for quantifying their value

The CAISO has encouraged AV Clearview to generate estimates for all of the comparative economic benefits of the two "South of Kramer" alternatives - AV Clearview and Coolwater-Lugo. We will continue to document our results before CAISO and CPUC staff as it is finalized over the next few weeks in time for their consideration in the Draft Statewide Plan.

These quantified benefits are expected to include:

Direct grid benefits captured in the anticipated CAISO economic analysis, for example:

- Congestion revenue
- Production cost savings

*Direct grid benefits **likely omitted** from the current CAISO analysis, for example:*

- VAR support
- Operational flexibility such as using the DC line to shift power flows to
    - reduce south of Kramer flow

    - reduce south of Lugo flow
    - reduce flow on Path 26
    - increase utilization of Lugo-Vincent 500 kV lines
    - increase utilization of TRTP system
- Quantifying the benefit of looping in the Windhub-Whirlwind radial line to become an integral part of the grid
- Valuing 'Renewable integration' through the DC Voltage Source Converter (near-term / long-term.)

Direct economic benefits, such as

- Producer surplus resulting from earlier online dates enabled by of AV Clearview

*Direct ratepayer benefits **likely omitted** from the current CAISO analysis, for example*

- Mitigation savings from AV Clearview alternative

Indirect ratepayer/policy benefits

- Earlier on-line date for AV Clearview accelerates job creation for transmission and solar project construction
- Earlier online date facilitates larger federal subsidy for renewables (pre-2017 ITC cliff)
- Western Mojave grid integration facilitates lower cost / lower impact renewables development

The results of these analyses will be supplied to the CAISO and other interested stakeholders over the coming weeks.

Comment 3: Corrections to Data presented at the CAISO Stakeholder Meeting

Cost Data

Critical Path would like to comment on, correct and request additional detail on the cost data presented by the CAISO on Slide 52 of 220 (Slide 7 of 10 of Ms. Kravchuk's presentation).

- The CAISO assumes the proposed AV Clearview Transmission alternative (baseline case) will cost $750-800M. This estimate is based on a long-outdated configuration of the Project. The current estimated cost based on indicative pricing by multiple EPC contractors and equipment suppliers is $670M. This estimate includes

    - Project Management
    - Engineering
    - Construction
    - Rights of Way acquisition
    - Contingency

- The current estimated cost of the expanded case (dual HVDC circuits, 500kV AC lines) of the AV Clearview alternative based on indicative pricing by EPC contractors and equipment suppliers is $1,190M. This estimate includes the same cost elements as the baseline case above.

- The cost of the proposed Coolwater-Lugo 230 kV Transmission Line presented by the CAISO is not consistent with public estimates by the incumbent PTO. While the CAISO presentation states a cost of $480M (not including the third transformer upgrade at Lugo), SCE states that the cost of the South of Kramer Project is $542M[1]. Critical Path requests confirmation that the $480M cost assumes that the Pisgah Lugo line and all Pisgah Region generation is no longer in the base case assumptions, and no longer in the CAISO Statewide Plan. Critical Path also requests, If possible, that the CAISO provide a breakdown of the $480M cost so that stakeholders can understand what cost elements are included or not included in the estimate.

Generation Data

The AV Clearview Transmission Project bridges the gap between the Tehachapi CREZ and the Kramer CREZ. While it is appropriate to use the Kramer CREZ generation assumptions from the CPUC TPP Portfolio to evaluate the Coolwater-Lugo South of Kramer Project, it is not appropriate to use the same assumptions for AV Clearview.

Some Tehachapi CREZ projects that have applied for interconnection at the Windhub substation can actually be more easily interconnected into the proposed Yeager substation and should be included as generation in the analysis of the AV Clearview Project. Some of these projects include:

- The Oro Verde Solar Project on Edwards AFB (450 MW)
- The Mojave Solar 1 Project (distinct from the Abengoa Mojave Solar Project) east of Edwards AFB (20 MW)
- The Freemont Valley Preservation Water Bank and Solar Project (900 MW) north of Edwards AFB
- Other solar projects south and east of the town of Mojave, such as High Desert Solar, Calwest Energy and Columbia I

There are severe physical constraint issues bringing any additional transmission lines into the Windhub substation. Because of this physical congestion around Windhub, Kern County has indicated that it does not intend to let rights of way controlled by the County be used for individual gen-tie lines. Kern County has a strong preference for grid upgrades into Windhub, such as the AV Clearview Project.

We expect that CAISO staff well understands the continued interconnection and permitting activity in solar and wind projects in the Tehachapi CREZ which would find shorter, lower-cost interconnection into the AV Clearview Yeager substation. As such, Critical Path proposes that the CAISO place some of the current generation (400-700 MW) of Tehachapi CREZ into the proposed Yeager substation rather than the unlikely scenario that all of the generation in the vicinity of Windhub be interconnected into Windhub.

Congestion Data

The CAISO presentation indicated congestion on the local Edwards-Holgate-Kramer 115kV distribution line. The connection from the proposed Yeager substation to the existing 115kV Edwards substation is not a necessary element of the AV Clearview Project. This element is included because it is strongly advocated by Edwards AFB, which has experienced costly power

[1] SCE Petition for Declaratory Order for Incentive Rate Treatment dated Dec 2010, Volume 1,Page 14

outages due to interruption on the Kramer-Holgate-Edwards radial line, the only source of power to the main portion of the Base. Edwards AFB considers the Yeager-Edwards connection a mission critical necessity to ensure energy security for the Base.

Preliminary analysis indicates that the issue raised by the CAISO can be eliminated by making the Yeager-Edwards element of the AV Clearview Project a normally open circuit. Together with appropriate SCADA hardware, this configuration prevents the potential congestion issue while maintaining the energy security to Edwards AFB.

Comment 4: Coolwater-Lugo Timelines and Costs Underestimated

The incumbent PTO faces considerable financial constraints as well as overwhelming permitting challenges in the Coolwater-Lugo project. By contrast, the High Desert Power Authority 1) can draw upon public and private capital sources to finance AV Clearview construction, potentially saving the ratepayers tens of millions of dollars and 2) planned the project by engaging all the local stakeholders to plan an environmentally friendly transmission solution during the past three years of the development of the AV Clearview Project.

The incumbent PTO states in their Petition for Declaratory Order for Incentive Rate Treatment dated December 2010 that "the Transmission Projects (including Coolwater-Lugo) face extraordinary commercial and licensing risks".

According to the affidavit of Paul Hunt in the Petition for Declaratory Order for Incentive Rate Treatment dated December 2010,

> "The Transmission Projects constitute a significant cash outlay for SCE, during a time of unprecedented transmission capital spending for SCE. SCE's overall level of transmission spending presents SCE with significant financial burdens and risks. Chief among these is that SCE will have difficulty executing its aggressive capital spending plans during the next few years without eroding its credit quality."

Mr. Hunt goes on to state that

> "Investors will view the Transmission Projects in light of SCE's total transmission spending and capital spending. While investment in the Transmission Projects is significant, it is not this investment alone that concerns investors, but the size of SCE's total transmission investment and total capital investment. As discussed previously, SCE plans to undertake as much as $21.5 billion in total investment during the next five years."

In addition to the potentially severe financial hurdles, the Coolwater-Lugo faces daunting permitting challenges.

In his affidavit in the Declaratory Order for Incentive Rate Treatment dated December 2010, Charles Adamson states "In sum, given the multiple layers of federal, state, local and tribal regulatory approvals and extensive environmental preparation requirements, the timelines for licensing the Transmission Projects are far from routine processes."

He further states:

> "With respect to South of Kramer, SCE faces several significant hurdles in its licensing and project development. First and foremost, SCE must obtain a Certificate of Public Convenience and Necessity ("CPCN") from the California Public Utilities Commission ("CPUC"). SCE expects to file its CPCN application in 2012. Based on past experience, SCE anticipates a final determination by late-2014."

Note that the forecast CPCN application date has slipped from 2012 to Q2 2013 at the soonest.

Finally, Mr. Hunt states:

> "Much of South of Kramer crosses federal land, which, as mentioned, leads SCE to expect that it will need to obtain several federal permits. Of greatest significance among these federal permits, SCE must obtain a Record of Decision ("ROD") from the Bureau of Land Management ("BLM"), the lead federal agency coordinating review under the National Environmental Policy Act ("NEPA"). The process for obtaining the ROD is lengthy and may take between 12 and 18 months. Also, SCE will have to obtain from the BLM a right-of-way ("ROW") grant, a Notice to Proceed, and a determination under Section 106 of the National Historic Preservation Act as to the potential impacts on historic properties, including impacts on tribal and non-tribal lands. Of additional significance, SCE will need to obtain a Biological Opinion from the U.S. Fish and Wildlife Service, pursuant to Section 7 of the Endangered Species Act. In addition, SCE is currently reviewing the need to obtain a permit under Section 404 of the Clean Water Act from the U.S. Army Corps of Engineers.

While the AV Clearview Project faces the same rigor of permitting, the route selection and engagement of local stakeholders from the inception of the Project means substantially lower risk of delay or outright rejection of the project during the permitting process, whether by local jurisdictions, in the case of AV Clearview or by the CPUC CPCN process in the case of Coolwater-Lugo. It is anticipated that the final AV Clearview route will not require a BLM right of way grant.

In sum, the financial and permitting challenges that the incumbent PTO faces with the Coolwater-Lugo project make it an unlikely 'preferred solution' within a CPCN process, or for the CAISO Statewide Plan when an alternative project is in development.

Comment 5: Incumbent PTO Cost underestimation

For the CAISO to select a Western Mojave policy-driven transmission project on the basis of a presumed cost difference (<20%) belies the history of the incumbent PTO's estimation failures. It is not unusual for SCE transmission projects to *significantly* overrun costs from their original estimates. Examples include:

- **TRTP**: The incumbent PTO estimated the cost of TRTP (as approved in the original CPCN) at approximately $900 million. The current estimated cost of the TRTP Project,

even before the Chino Hills resolution, is nearly $2.5 billion. This represents an almost *200% cost overrun*.

- **DPV2**: As approved in the CPCN, the incumbent PTO indicated to the CPUC and the ratepayers that the Project would cost approximately $540 million. While the Project is currently about half of its original length, (no more Arizona portion) the incumbent PTO is asking the ratepayers to pay *double the price (4x per mile)*, as indicated in the recent Advice Letter.

These examples are not unusual for California PTOs. The Sunrise Powerlink Project was originally estimated at $1.0 billion to 1.4 billion in their CPCN application - the final cost is now estimated be well over $1.9 billion, a 60% cost overrun above the average of the original low and high cost estimates.

This heavy burden repeatedly imposed on ratepayers by the utility monopolies is one of the reasons why the multitude of private, state and federal stakeholders in the transmission space has demanded that competition be introduced to the California transmission marketplace. The introduction of the revised transmission planning process for policy-driven projects cracked the door open to marketplace competition. What remains to be seen is whether competition will be permitted.

The tariff in Section 24.4.6.6 calls for the CAISO to "identify such policy-driven transmission upgrade or addition elements that *efficiently* and *effectively* meet applicable policies…" If the CAISO chooses to not to look at the benefits of alternative projects in their entirety, including renewable integration and lower environmental impacts, the same analysis will, of necessity, be performed at the CPUC during a CPCN process, resulting in a lengthy delay and higher costs to the ratepayers.