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Additional submitted attachment is included below.

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California Energy Commission
Dockets Office, MS-4
Re: Docket No.15-IEPR-08
1516 Ninth Street
Sacramento, CA 95814-5512
Via e-Comment

Re: Duke American Transmission Company's Comments on the 2015 Integrated Energy
Policy Report: Transmission and Landscape-Scale Planning

Dear Commissioners,

Duke American Transmission Company ("DATC")¹ appreciates the opportunity to provide these comments as follow-up to the August 3, 2015, Integrated Energy Policy Report ("IEPR") workshop on transmission and landscape-scale planning.

These comments are divided into three sections. First, we offer an overview of the current transmission planning situation in California as context for the more specific issues discussed thereafter. Second, we address the specific "right-sizing" questions posed by the CEC staff. Third, we discuss the application of the first two sections and the comments heard by the Commission at the workshop to a real-world and critically timely example: the San Luis Transmission Project ("SLTP").

¹ DATC and its parent entities, Duke Energy and American Transmission Company, have considerable experience developing, owning and operating major transmission facilities across the country. In California, DATC owns the majority of the transmission service rights for the critical Path 15 portion of the California Independent System Operator ("CAISO") controlled transmission grid. DATC is also developing the Zephyr Power Transmission Project which will meet regional needs including bringing highly reliable and low-cost wind power from Wyoming to California. DATC is also presently working with the Western Area Power Administration ("Western") to develop the San Luis Transmission Project ("SLTP"), a 62-mile transmission project to be located between the Tracy East and Los Banos Substations. This project, discussed further below, will serve federal water pumping needs and, if right-sized, will also make transmission available for renewable development in the San Joaquin Valley. Such development is necessary both to meet the state's renewable energy and climate change goals as well as to stimulate the economy in this currently struggling region of the state.

I. California's Transmission Planning Challenges

This Commission—and all of the government and private entities involved in electricity and transmission planning in California—has done a remarkable job in achieving the state's 33% renewable penetration by 2020 target on schedule. DATC commends all involved for solving the myriad of challenges inherent in fundamentally transforming within only a few years a complex network of physical infrastructure, contracts, permits, regulations and processes vital to the eighth largest economy in the world.

This historic achievement could not have been accomplished without visionary transmission planning and permitting. That effort has enabled projects such as the Tehachapi Renewable Transmission Project and Sunrise Powerlink to overcome significant controversy and permitting challenges.² As noted by President Picker at the August 3 workshop, today these two facilities are fully subscribed and delivering over 5500 megawatts of renewable energy to California consumers every day.

Overall, the state's success in reaching the 33% target involved the approval and construction of at least 20 major transmission projects documented by the Commission.³ The majority of these projects (such as the Tehachapi Project, the Sunrise Powerlink and the Colorado River-Valley and West of Devers Projects), necessary for delivery of 58 percent of all the incremental renewables needed to meet the 33% target, were part of long-term (greater than 10-year) multi-agency planning processes.

But the bar has been raised again—dramatically. The Governor's inauguration address and pending legislation are raising the state's renewables penetration goal from 33% to 50% by 2030. Moreover, Governor Brown's executive order B-30-15, calling for a 40% reduction in the state's carbon footprint compared to 1990 levels by 2030—and even greater reductions by 2050—effectively means that the 50% renewable penetration goal is a floor not a ceiling. As was widely discussed at the workshop, California will have to go beyond 50% to meet its carbon reduction targets.

Moreover, California will have to do so with much of the “low hanging fruit” having been used to meet the 33% target. Indeed, it will need to redouble its effort and develop an even greater amount of new transmission to get there on schedule. Just as was necessary to meet the

² For example, the CPUC voted 4-1 on Dec. 18, 2008 to approve the Sunrise Powerlink notwithstanding that the CPUC administrative law judge and the presiding commissioner assigned to the proceeding recommended against approval. The EIR conducted by the CPUC for this project is over 11,000 pages. Nonetheless, the project needed to overcome lawsuits that went to the California Supreme Court and the federal courts by a wide variety of opponents, including the consumer group UCAN and the Center for Biological Diversity.

³ California Energy Commission – Tracking Progress: Transmission Expansion Projects for Renewables, available at: http://www.energy.ca.gov/renewables/tracking_progress/documents/transmission_expansion_projects.pdf.

33% target, much of this new transmission will demand long-term, multi-agency planning that looks well beyond the state's immediate reliability and congestion needs.

While 2030 may seem distant, for transmission planners it is rapidly approaching. Planning, permitting, financing and constructing significant transmission projects in California can take up to ten years or even longer.⁴ If California is to have the transmission in place to meet its carbon reduction goals—which include very significant electrification of transportation on top of the renewable energy demand—it needs to engage in coordinated multi-agency long-term planning starting now. DATC stands ready to lend its considerable resources and experience to aid in that effort.

The Commission and other agencies know this and have begun substantial efforts. DATC applauds the recently announced RETI 2.0 process, this IEPR effort, the Governor's Office San Joaquin Solar Convening and other examples of long-term transmission planning now underway. DATC is a full participant in this IEPR and the Convening and intends to participate in the RETI 2.0 process. These efforts recognize that transmission planning in California is not the responsibility of any single agency and that close coordination among the CPUC, the ARB, the CAISO, BLM and this Commission—all of which have separate proceedings and roles to play in making transmission planning work—is critical. As the excellent Natural Resources Defense Council presentation in this docket⁵ has articulated, it will take even more visionary—and long-term—transmission planning and permitting to get there.

But such coordinated planning takes time and, as BLM's California Director James Kenna noted at the August 3 workshop, some critical decisions must be made before planning efforts such as those above can be completed.

One decision that cannot wait for these planning efforts is whether to right-size the SLTP. As discussed below in Section III, the federal agencies developing that project have stated their intent to make a final project size decision by the Spring of 2016. This project, whether built only to serve the federal water pumping needs at 230 kV or right-sized to 500 kV, will utilize one of the last remaining existing transmission corridor space along a critical section of the backbone of the California grid. The CAISO has identified this project at 500 kV in Cluster 3 of its generator interconnection process as the most significant upgrade needed to interconnect significant new solar resources in the San Joaquin Valley. However, as DATC noted in its initial application for this project to the CAISO in the 2014-15 planning process, the CAISO process is

⁴ The Sunrise Powerlink took nearly 6 years from its initial CPUC permit application in August, 2006 to its first being energized in June 2012—and there were years of planning and preparation of the application before then. Tehachapi took even longer: initial planning for Tehachapi began over 15 years ago, and the initial phase CPUC permit application was filed in the Fall of 2004; the full project is not expected to be completed until late 2016. Another example is the SLTP, which the federal sponsors have been developing for more than 4 years already and which is expected to come on line in 2023.

⁵ Environmental Data and Transmission Planning, Presented by Carl Zichella on August 3, 2015, Slides 17-18.

not designed to make a time limited right-sizing decision for this type of project, whose benefits are long-term and varied. As a result, through no fault of the CAISO or any individual entity, this opportunity is about to fall through the cracks of the multi-agency planning process and be rejected without the key questions relevant to such a decision (discussed next) having been examined. Unless the type of visionary transmission thinking that led to the Tehachapi and Sunrise projects results in a change of direction very soon, California will make a significant transmission planning decision without truly weighing the risks and benefits. Chief among those risks is that transmission likely needed to develop solar in the San Joaquin Valley to meet the state's carbon reduction goals may become much more costly and not available when needed.

II. Responses to the CEC Staff's "Right-Sizing" Questions

1. Is right-sizing transmission a qualitative (policy) issue or a quantitative (metric-based) issue?

Right-sizing is both a policy issue and a quantitative one. But it is first and foremost a fundamental California transmission planning policy. Indeed, the Garamendi Principles are the only specific transmission planning policies deemed important enough to be codified in statute.⁶

⁶ Garamendi Principles, SB 2431, Stats. 1988, Ch. 1457. The Garamendi Principles state, in pertinent part, as follows:

- (a) The Legislature finds and declares that establishing a high-voltage electricity transmission system capable of facilitating bulk power transactions for both firm and nonfirm energy demand, accommodating the development of alternative power supplies within the state, ensuring access to regions outside the state having surplus power available, and reliably and efficiently supplying existing and projected load growth, are vital to the future economic and social well-being of California.
- (b) The Legislature further finds and declares that the construction of new high-voltage transmission lines within new rights-of-way may impose financial hardships and adverse environmental impacts on the state and its residents, so that it is in the interests of the state, through existing licensing processes, to accomplish all of the following:
 - 1. Encourage the use of existing rights-of-way by upgrading existing transmission facilities where technically and economically justifiable.
 - 2. When construction of new transmission lines is required, encourage expansion of existing rights-of-way, when technically and economically feasible. (Emphasis added).
 - 3. Provide for the creation of new rights-of-way when justified by environmental, technical, or economic reasons, as determined by the appropriate licensing agency.

As such, these right-sizing principles deserve to be given great weight by transmission planners at all levels. As a practical matter, this means that any proposal to not right-size a transmission project should only be adopted after a careful examination of the long-term environmental and economic consequences of such a decision. At a minimum, such a careful analysis would logically include a careful review of the likely need for the foregone transmission capacity over the long-term and under a reasonable range of scenarios. Such an analysis would also logically include a careful review of the environmental and economic consequences of failing to right-size the project and having to add equivalent transmission capacity in the future.⁷

Where it is likely that the capacity may be needed over the long-term and the environmental and economic benefits of right-sizing are substantial if it is needed, then the Garamendi Principles support right-sizing even where the likely need is longer-term. To say the opposite (*i.e.* that the Garamendi Principles only apply where the additional capacity is immediately needed) renders these statutory principles meaningless; such a project would be deemed needed with or without the statute. It is a fundamental axiom of law that statutes should be interpreted to be meaningful.

Thus, right-sizing is a fundamental policy of California law. But the policy also demands some quantitative analyses to implement. The policy calls for an assessment of the likely long-term need for the additional capacity created by right-sizing.⁸ The policy also calls for an assessment of the increased cost and impacts of right-sizing compared with the costs and impacts of not right-sizing and having to add the capacity separately later. How detailed these analyses must be is a matter of opinion. But these *are* the essential questions associated with right-sizing and any decision to forego a right-sizing opportunity must be based on *some* reasonable assessment of them. A decision regarding right-sizing that does not address these basic questions violates the public interest as set forth in the Garamendi Principles. (As discussed below, that is precisely what California is about to do with respect to the SLTP.)

The Garamendi Principles are frequently cited as a primary source of law governing permitting and siting of transmission lines for the CEC and the California Public Utilities Commission (“CPUC”). For instance, in a 2009 decision, the CPUC employed the Garamendi Principles to justify siting a transmission line through an existing corridor instead of creating an entirely new corridor. *Decision Granting a Certificate of Public Convenience and Necessity for the Tehachapi Renewable Transmission Project (Segments 4-11)*, D.09-12-044 at page 19.

⁷ As discussed further in Section II, California is currently on a path to not right-size the SLTP without any assessment of its likely long-term need or any analyses of the increased cost and environmental impact of having to create new right-of-way capacity when it does become needed.

⁸ Such an analysis should obviously consider reliability needs. But it should also weigh other likely benefits and needs as well, including the benefits of increased regional power sharing, increased access to lower cost generation, increased competition in generation and the insurance such capacity will provide against forecast uncertainty. These concepts are those of the CAISO’s Transmission Economic Assessment Methodology (“TEAM”) and Brattle Group transmission planning documents discussed further below.

2. *What criteria should be used to assess right-sizing opportunities?*

The logical criteria for a right-sizing decision are primarily those set forth in the previous response: 1) what is the likelihood that the additional capacity created by right-sizing will prove useful and beneficial over the long-term; and 2) what are the relative costs and environmental impacts of right-sizing compared to adding equivalent capacity later. The Garamendi Principles were not intended to burden ratepayers with unneeded “bridges to nowhere.” Right-sizing a facility where the capacity is unlikely to ever be used is not sound policy. Nor is it sound policy to right-size a facility where the need is uncertain and the cost and impacts of adding equivalent capacity later are competitive with those of right-sizing. Conversely, right-sizing a facility that is taking the last available existing corridor space on the backbone of the California grid is precisely the type of situation the Garamendi Principles were enacted to address.

Finally, there is one other key consideration: how long the right-sizing opportunity will be available. Transmission developers assume significant costs and spend considerable time in obtaining financing and regulatory approvals. These efforts are based upon a definition of the project size that must be made early in the development process. Once a commitment to constructing a transmission project at a particular voltage has been made, the opportunity to resize that same transmission project later becomes increasingly costly and time consuming. In many cases, the opportunity will be lost entirely once a commitment to a voltage level has been relied upon for financing, permitting and planning. A right-sizing opportunity should be assessed in light of the possibility of losing that opportunity entirely in the future.

3. *Is right-sizing only appropriate for areas that have been studied in depth for maximum possible renewable build-out, such as DRECP?*

Right-sizing is appropriate for areas where there is a widely shared view by state and federal legislators, California energy agencies, the environmental community, and the agricultural community as being a preferred location for renewable build-out, including solar generation projects. The DRECP and the San Joaquin Valley are excellent examples where such consensus has been built.

The Southern San Joaquin Valley, for instance, has been pointed to by policy makers and transmission planning stakeholders as an area for new solar development. The Governor’s office SJV Solar Convening is now the focus of that interest—but it has been growing for some time.⁹

⁹ For example, see Letter from Representatives Jim Costa, Devin Nunes, Sam Farr, Jeff Denham, Zoe Lofgren, and David Valadao to Steve Berberich, CAISO President and CEO, RE: San Luis Transmission Project Support (December 15, 2014); Letter from Senators Jean Fuller, Tom Berryhill, Andy Vidak, Anthony Cannella, Cathleen Galgiani and Assemblymembers Kristin Olsen, Adam Gray, Henry T. Perea, Jim Patterson, Rudy Salas Jr., Shannon Grove, Devon Mathis to Steve Berberich, CAISO President and CEO, RE: San Luis Transmission Project (January 22, 2015); *see also*, Renewable Energy Transmission Initiative, Phase 2B Final Report, (May

Renewable projects under development in the Central Valley, such as the series of phased projects comprising Westlands Solar Park¹⁰, will require additional transmission capacity. Under this view of the San Joaquin Valley, as in the DRECP, right-sizing is appropriate due to the potential for renewable build-out. Accordingly, as a general rule, right-sizing is appropriate for areas under circumstances similar to that of Tehachapi or the San Joaquin Valley.

However, limiting right-sizing only to areas that have been studied in depth would be shortsighted. It certainly would not have been prudent to delay or forgo right-sizing the Tehachapi Project simply because that resource area had not been included in the RETI or the DRECP. Given planning uncertainties arising from the potential need to transfer significant amounts of energy between northern and southern California, and the potential for other unstudied parts of the state to later become areas for renewable build-out, right-sizing should continue to be considered for transmission located even in areas not studied in depth.

4. Given that new policy targets are considered for long-term renewable generation and GHG emission reduction targets, how should right-sizing transmission proposals be evaluated in long-term planning?

First, this question assumes that California does “long-term planning” for transmission. While the Commission’s transmission corridor efforts, the recently announced RETI 2.0 and the DRECP are good examples of long-term transmission planning, they are largely “information only” and do not directly bind or influence the CAISO’s transmission planning process. That process looks ahead only 10 years, which is the NERC *minimum* horizon.¹¹ It is not a long-term plan by industry standards. Moreover, as the CAISO representative candidly stated in the August 3 workshop, this year’s planning cycle will study the impacts of the state’s adopted goal of achieving a 50% renewable penetration as an “information only” exercise that will not be used to justify any additions to the plan.¹² Thus, while California is generating long-term planning information, it does not in fact use it to develop a long-term plan for transmission. Rather, it looks ahead only 10 years to plan for assets that can take nearly that long to develop and that will last for most of this century. And the current cycle will look ahead only 10 years based on

2010), available at <http://www.energy.ca.gov/2010publications/RETI-1000-2010-002/RETI-1000-2010-002-F.PDF> and Renewable Energy Transmission Initiative, Map of California Competitive Renewable Energy Zone Conceptual Transmission Segments Phase 2B Final (August 5, 2010), available at: <http://www.energy.ca.gov/reti/documents/index.html>.

¹⁰ For more Westlands Solar Park information, see <http://www.westlandssolarpark.com/>.

¹¹ North American Electric Reliability Corporation (“NERC”) Reliability Standards for the Bulk Electric Systems of North America, Updated July 23, 2015, Standard BAL-502-RFC-02, R1.2.2 (requiring Planning Coordinators to perform and document a resource adequacy analysis ‘*at a minimum* for one year in the year 2 through 5 year period and *at a minimum* one year in the 6 though 10 year period.’)(Emphasis added).

¹² Presented by Jeff Billinton (“ISO is coordinating with CPUC to perform a special study in 2015-2016 Transmission Planning Process that will [among other things] be for information purposes only – will not be used to support a need for policy-driven transmission in the 2015-2016 planning cycle.”)

assumptions that do not include key state policies that are already adopted, including the 50% renewable penetration and 40% carbon reduction targets.

That said, we turn to the question presented: how should right-sizing proposals be evaluated in long-term planning given the new renewable generation and GHG policy targets. Obviously, the new policy targets should be incorporated into any long-term planning. Right-sizing should also be analyzed in a manner consistent with the CAISO's Transmission Economic Assessment Methodology ("TEAM") and Brattle Group concepts. The CAISO's TEAM acknowledges that decisions on whether to build new transmission are fraught with risks and uncertainties about the future, including future load growth, fuel costs, additions and retirements of generation capacities and location of those generators.¹³ The TEAM urges planners to examine the value of a transmission expansion under a wide range of possible system conditions to fully capture all the impacts a project may have.¹⁴ Likewise, a report by the Brattle Group emphasizes a comprehensive planning approach that includes evaluating uncertainties through scenario-based analyses.¹⁵ Consistent with these approaches to long-term transmission planning, right-sizing should be included as a parameter in multiple scenario-based analyses.

a. Should a specific time frame be applied to the evaluation (10, 15, 20 years)?

The Commission should encourage the use of long-term 20 year forecast. This is probably wise under all circumstances. However, at a minimum, such a forecast should be used for the evaluation of right-sizing opportunities that will not be available in future planning cycles. DATC believes that the minimum 10-year forecast is not sufficient to fully consider all of the planning assumptions relevant to the right-sizing of a transmission project. As discussed above, transmission planning, as implemented by the CAISO, typically utilizes a 10-year timeframe based on the North American Reliability Corporation's ("NERC") minimum ten-year reliability forecast¹⁶. This 10-year timeframe addresses immediate reliability issues but it fails to address key questions pertaining to right-sizing, including:

- How long will the opportunity to "right-size" a transmission project be available and can a decision be postponed to a future planning cycle?

¹³ *Transmission Economic Assessment Methodology*; CAISO; June 2004; at p. 5-1 and 5-2.

¹⁴ *Transmission Economic Assessment Methodology*; CAISO; June 2004; at p. 5-1 and 5-2.

¹⁵ *The Benefits of Electric Transmission: Identifying and Analyzing the Value of Investments*; July 2013; The Brattle Group; Executive Summary at p. vii (emphasis added). (Note: CAISO Vice President Dr. Keith Casey is acknowledged in this report as having played a major peer review role regarding it. See the section entitled "Summary of Peer Review.")

¹⁶ CAISO Planning Standards, Effective April 1, 2015 at p. 3, available at: https://www.caiso.com/Documents/FinalISOPPlanningStandards-April12015_v2.pdf.

- What is the potential cost in dollars and environmental impact of failing to “right-size” a particular project now and needing the capacity later?
- What are the chances that this capacity will be needed over the long-term?
- How do the risks of passing on the chance to “right-size” a project compare to the cost of doing so?

Evaluating right-sizing transmission proposals based solely on the minimum 10-year forecast of system conditions rather than a robust analysis of multiple scenarios, ignores these fundamental questions and puts transmission stakeholders at risk of incurring potentially very high costs in the future.

5. *What is the appropriate way to analyze the costs vs. benefits of a potential right-sizing project?*

Once the appropriate analyses of costs and benefits have been done, weighing these criteria necessarily and appropriately calls for some judgment in balancing them. The Garamendi Principles reflect three fundamental facts regarding transmission that should inform that judgment.

The first is that planning, permitting, financing and constructing significant new transmission facilities in California typically takes many years. Indeed, in some cases it may be a challenge to bring a project on-line within the CAISO’s current 10-year planning horizon.¹⁷

¹⁷ The development time and the fact that transmission facilities will last many decades beyond the 10-year horizon are reasons that most transmission planning entities base planning decisions on a longer time scale than does the CAISO. For example, the PJM Regional Transmission Expansion Planning (RTEP) process employs a 15-year planning horizon. PJM 2015 RTEP Process Scope and Input Assumptions White Paper, Aug. 7, 2015, available at: <http://www.pjm.com/~media/documents/reports/2015-rtep-process-scope-and-input-assumptions.ashx>; see also, PJM Interconnection: Regional Transmission Expansion Plan, <http://www.pjm.com/planning.aspx>. Under this timeframe, projects such as the 500 kV Trans-Allegheny Interstate Line [Market Efficiency Analysis of 502 Junction-Meadowbrook-Loudoun 500 kV Line, p. 6-12, <https://www.pjm.com/~media/committees-groups/committees/teac/20070509/20070509-market-efficiency-update.ashx> (analyses based on years 2006/2007 through 2021/2022)]; the 500kV Carson-Suffolk line [See, PJM RTEP fact sheet, <https://www.pjm.com/~media/documents/reports/2009-rtep/2009-section1.ashx> (acknowledging a 15-year planning horizon under which the Carson-Suffolk line was analyzed)]; and the 500 kV Susquehanna-Roseland line [Pennsylvania Public Utility Commission, Recommended Decision of ALJ Susan D. Colwell in, among other proceedings, docket A-2009-2082652, Paragraph 67 (“...PJM chose the Susquehanna-Roseland Project because it had the greatest positive impact on [] line loadings throughout the 15-year planning horizon.” (citing PPL Electric Stmt. 7 at 33)))] have been evaluated.

Additionally, MISO’s Transmission Expansion Plan (“MTEP”) employs a 20-year planning horizon. MISO Transmission Planning BPM, BPM-020-r11 at p. 51. Projects that have been evaluated by MISO within the last

This means that planning and permitting for too much transmission can be quickly remedied prior to construction by simply cancelling or postponing construction. But the opposite not true: planning and permitting for too little cannot be remedied easily if at all.¹⁸

The second basic fact is that the cost of transmission is relatively small portion of the customer's total electric bill—typically less than 10%. But a lack of transmission can drive up the cost of generation, which is by far the largest portion of the total bill. In some cases this effect can be dramatic. The CAISO has stated that more transmission linking the Western Interconnection to the Eastern Interconnection would have averted the California electricity crisis of 2000-2001.¹⁹ Focusing only on keeping the transmission portion of the bill low can often be “penny wise and pound foolish.” It is the total bill that matters and spending more on transmission to reduce generation costs and impacts is often in the public interest.

The third basic fact regarding transmission is the classic “chicken and egg” problem: generation tends to be proposed where there is available transmission and not elsewhere, even when other locations are otherwise attractive. California has learned through experience with the Tehachapi transmission project and the Sunrise Powerlink that often “if you build it, they will come.” Both of these projects were opposed by some on the basis that the generation would not materialize and the investment would be stranded. In fact, as noted by President Picker at the August 3 workshop, today both are fully subscribed with renewable generation and are critical to meeting many of the state's goals.²⁰

few years under this timeframe include: the 345 kV Montgomery – T-Hills line [MTEP 2014 Overview, p. 12, available at:

<https://www.misoenergy.org/Library/Repository/Meeting%20Material/Stakeholder/BOD/System%20Planning%20Committee/2014/20140826/20140826%20System%20Planning%20Committee%20of%20the%20BOD%20Item%20004%20MTEP14%20Overview.pdf>]; the 500 kV “Great Northern Transmission Line” [MTEP 2014 Overview, p. 8]; and the 115 kV Franklin-McComb line [MTEP 2014 Overview, p. 12].

¹⁸ The vast majority of the costs of transmission are in the final construction phase. But the vast majority of the time is in the planning, permitting and financing.

¹⁹ “[T]ransmission upgrades are particularly valuable during extreme conditions and major values of transmission upgrade are insurance against extreme events. For example, the California energy crisis might have been avoided had there been a significant transmission capacity between the Eastern interconnection and the Western interconnection. If all of the inexpensive Eastern power could have gotten to the West during that time period, prices would not have risen and the state of California would not have had to assign forward contracts at prices that reflected substantial market power. In addition, it would have perhaps avoided the recent blackout in the eastern U.S. that led to significant economic loss to that area of the country.” Transmission Economic Assessment Methodology; CAISO; June 2004; at p. 5-2, available at: <https://www.caiso.com/Documents/TransmissionEconomicAssessmentMethodology.pdf>

²⁰ Like Tehachapi, the San Joaquin Valley is a classic example of a region with tremendous renewable energy potential that to date has gone unrealized due to a lack of transmission. Indeed, the Tehachapi facility was at substantially more risk of being stranded than transmission to the San Joaquin Valley. That is because Tehachapi transmission could indeed have been a “bridge to nowhere” absent the wind resource. In contrast, San Joaquin Valley transmission is on the backbone of the California grid and would serve many needs under different scenarios than simply accessing renewables in the valley.

All three of these basic truths about transmission suggest that policy makers should err on the side of supporting a right-sizing decision when balancing the risks and rewards.

They should also do so with a long-term perspective. A report by the Brattle Group opines:

The [different] methods currently used by planners and regulators differ by the number of years analyzed (*i.e.*, planning horizons), how benefits are estimated over the short-term and long-term, whether levelized or present values are used in the benefit and cost estimations, and the benefit-to-cost threshold that projects must clear. After analyzing the various methods currently employed in different planning regions, we recommend that the estimated benefits be compared with estimated project costs—either on a present value or levelized annual basis—over a time period, such as 40 or 50 years, that approaches the useful life of the physical assets. Paying attention to how benefits and costs accrue over time and across future scenarios will also help planners to optimize the timing of transmission investments from a long-term value perspective.²¹

A long-term perspective of right-sizing projects is the only appropriate way to analyze the costs and benefits objectively, since the benefits may not accrue until later but must be seized before the right-sizing opportunity is gone.

a. What is the cost of building a right-sizing opportunity into a future project (for example, build a 230 kV transmission line to 500 kV specifications or a single-circuit line with double-circuit towers)?

DATC agrees that it can make sense to preserve right-sizing benefits by building a right sizing opportunity into a lower voltage project. A good example of this approach is PG&E's proposed Gates-Gregg/Central Valley Connect project, approved by the CAISO with double circuit towers but with an initial installation of only one circuit.

While in the long run this option may cost more than simply right-sizing the project initially, this alternative can reduce immediate costs without permanently forgoing the right-

²¹ *The Benefits of Electric Transmission: Identifying and Analyzing the Value of Investments*; July 2013; The Brattle Group; Executive Summary at p. vii (emphasis added). (Note: CAISO Vice President Dr. Keith Casey is acknowledged in this report as having played a major peer review role regarding it. See the section entitled "Summary of Peer Review.")

sizing benefits. It can also make sense to buy time for a more thorough consideration of the right-sizing issues where time is limited.

b. How do we evaluate if the increase in cost is worth the risk?

See the answers to previous questions regarding the criteria for a right-sizing decision.

III. The Real World Right-Sizing Issue: the SLTP

The real world right-sizing question currently pending in California is the SLTP. The federal sponsors of the SLTP are more than 4 years into their development effort and have made clear their intent to finalize the project design no later than Spring 2016, when the environmental review is completed. Thus, the window for a decision to right-size the project to 500 kV closes in approximately 8 months. In its presentation at the August 3 workshop and elsewhere, however, the CAISO has stated unequivocally that it does not expect to approve any policy-based transmission projects in the 2015-16 planning cycle.²² That means it will not approve right-sizing the SLTP in time. Therefore, notwithstanding the Garamendi Principles and many other applicable policies²³, California is on the cusp of a decision that will have federal agencies utilize the last backbone corridor space between the Los Banos and Tesla/Tracy area without right-sizing the transmission project for this corridor.

If this decision is reached after careful consideration of the relevant right-sizing questions discussed in these comments, then California ratepayers will have reasonable assurance that the decision is prudent. But it is virtually certain that such will not be the case. Despite specific requests from DATC that the CAISO perform a timely assessment of long-term need and the relevant risks and benefits of right-sizing, the sole basis for rejecting right-sizing is that the project has not been found needed for reliability or congestion relief over the next 10 years. The CAISO's process is based on the principle of looking at immediate needs and scenarios and counting on updating the plan every year to capture longer-term issues. That is a valid approach for evaluating transmission opportunities that will remain to be considered in future planning cycles. It does not work well for right-sizing opportunities that have long-term consequences that must be considered before the opportunity is lost. As a result, the consideration of the SLTP has not included any of the following:

- An evaluation of the need for the right-sizing capacity over a longer-term than 10 years;

²² Presentation by Jeff Billinton, Slide 5.

²³ These other policies include the currently adopted IEPR, the CAISO tariff, the CAISO TEAM document referenced above and FERC Order 1000.

- An application of the TEAM and Brattle Group concepts that considers the need for the right-sizing capacity under a wider range of scenarios than the very limited ones considered to date, including considering the state's renewable penetration and carbon reduction goals, the likelihood of substantial renewable development in the San Joaquin Valley and several other scenarios relevant in this time of unprecedented change in electricity markets;²⁴
- A study by the CAISO, or the Energy Commission, comparing the costs and environmental impacts of right-sizing the SLTP to the costs and impacts of installing the equivalent capacity later in a new transmission corridor.
- An assessment of how future renewable development in the San Joaquin Valley will assist California in meeting its future environmental and energy goals.

In short, California is on the cusp of rejecting right-sizing the SLTP without knowing how likely it is that the capacity will be needed beyond 10 years, without knowing the impact it may have on renewable development in the San Joaquin Valley, without considering the impact that it may have on achieving the state's renewable electricity and carbon reduction goals,

²⁴ DATC put it this way in its submission of the SLTP to the CAISO's 2014-15 transmission planning process:

"Planning for California's electric future electricity needs must consider the cumulative and interactive effects of all of the following tectonic changes in California's electricity supply and demand picture:

- *The closing of the San Onofre Nuclear Generating Station*
- *The potential closing of the Diablo Canyon Nuclear Generating Station*
- *The effort to reduce GHG emissions and achieve an unprecedented increase in the penetration of renewable generation and the likelihood that these targets will be raised in the near future*
- *The closing or repowering of many California power plants that rely upon once-through cooling pursuant to the State Water Resources Control Board's ban on that cooling system*
- *The effort of air agencies and auto manufacturers to replace gasoline with electricity as state's principal transportation fuel and uncertainties regarding the amount and timing of recharging such vehicles*
- *The state's efforts to encourage electricity storage and the technical and market success of large-scale electricity storage technologies*
- *The state's efforts to encourage distributed "behind the meter" generation*
- *The impacts of climate change and drought on electric supply and demand*

Any of these changes alone would be significant and would introduce uncertainty into the TPP. That all of them are happening at once means that transmission planning based on any scenario or assumed future is a fool's errand. It is incumbent upon the CAISO to develop a transmission plan that is flexible enough to accommodate a wide range of California electricity futures. It is also incumbent on the CAISO to recognize that erring on the side excess capacity is far more easily remedied than erring on the side of too little. In the face of such uncertainty, the CAISO should explicitly recognize that prudent planning means ensuring that the grid is capable of responding to all these changes. Taking advantage of a one-time chance to increase the backbone capacity of the CAISO grid at relatively low cost, in addition to meeting the other planning policies set forth above, meets this goal."

without knowing the impact of the decision on regional power sharing and renewables integration and without knowing what the costs and environmental consequences of this decision may be should the capacity prove needed under these and other plausible scenarios. It is simply not true to say that the right-sized project is “not needed” without considering these questions. That is not simply the position of DATC. It is a concern shared by a diverse coalition of interests including environmental groups, the agriculture community, the renewable energy industry and many others.

The lack of analyses of these questions is particularly frustrating to DATC and others because there is ample reason to believe that such analyses would support right-sizing the SLTP. Among the reasons suggesting this outcome are the following:

- The additional capacity created by right-sizing the SLTP is very likely to be beneficial over time:
 - Far from being a “bridge to nowhere”, the SLTP is on the backbone of California’s transmission grid that is needed for transfers of power between Northern and Southern California and the Western region;
 - The capacity is on the path for delivery of the substantial renewable energy potential of the San Joaquin Valley that the Solar Convening and the state’s renewables and carbon reduction goals are virtually certain to stimulate;
 - The most recent CAISO study of significant solar development in the San Joaquin Valley, conducted in Cluster 3 of the Generator Interconnection Process, found that resulted in most projects cancelling due to transmission upgrade costs— and the equivalent of the SLTP was deemed to be the most important needed upgrade.
- The costs of right-sizing are reasonable:
 - Right-sizing the SLTP would double the cost but quadruple the capacity of the project. The cost of this incremental capacity compares favorably with other transmission costs approved by the CAISO, with the cost per megawatt of right-sizing the SLTP being one-third or less of the incremental capacity costs of comparably sized projects such as the Sunrise Powerlink, Tehachapi, and the Devers-Colorado River projects.
- The cost of failing to right-size are likely to be very high:
 - The relative costs of right-sizing the SLTP within the existing corridor versus developing new transmission in a new corridor are unstudied. But experience and common sense suggest that the environmental impacts of a

new corridor are much higher, opposition is likely to be much stronger and therefore the permitting time and costs will certainly be much greater.

The bottom line is this: California is on the cusp of making a transmission planning decision without considering the consequences beyond the next 10 years and without considering the newly adopted renewables and carbon reduction policies. For transmission in a critical backbone location that can take 10 years to develop and will last many decades, ignoring the costs, risks and benefits of the decision beyond the next ten years is short-sighted and puts achieving the state's newly adopted policy targets at risk.

This circumstance is not the result of malfeasance by the any of the entities responsible for California transmission planning. This Commission, the CPUC and the CAISO have each followed their applicable processes and rules and done so with great expertise. Rather, it is happening because, as DATC has acknowledged from initial application to the CAISO, right-sizing the SLTP is a time limited decision with long-term consequences that California's transmission planning process was not designed to resolve. As many have recognized, California needs to reform its transmission planning to consider a wider range of benefits, risks and scenarios over the long-term. This reform effort is already underway in RETI 2.0 and other forums. But those efforts will not be completed in time for the decision on right-sizing the SLTP.

IV. Conclusion

DATC strongly supports this IEPR process, the San Joaquin Solar Convening process, the recently announced RETI 2.0 process other efforts to reform California's transmission planning. DATC is confident these coordinated efforts among the various agencies and stakeholders improve long-term transmission planning in California. DATC is also confident that these efforts will ask the relevant questions to evaluate the wisdom of right-sizing transmission projects. But these processes will not be completed in time to affect the sizing decisions of the federal agencies developing the SLTP.

This Commission has already written the CAISO supporting the concept of right-sizing and seeking a careful application of the IEPR and Garamendi Principle policies to the SLTP. That letter also made clear that the Commission defers to the forecasting and planning expertise and jurisdiction of the CAISO. DATC shares the Commission's respect for and deference to the CAISO's planning expertise. That is why to date DATC has sought to work within the CAISO process and has asked the CAISO to conduct the studies needed to address the relevant right-sizing questions over a longer timeframe and according to its own TEAM concepts. There is still time for that to occur. There is also still time for all stakeholders to consider the alternative of preserving the right-sizing opportunity by funding the construction of 500 kV towers with 230 kV conductors. DATC hopes that the Commission will recognize the merit of the ideas set forth

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in these comments, the imminent failure of the current process to answer the relevant questions and the importance of this decision for the entire state. If so, DATC urges the Commission to use its considerable influence to support a timely and carefully considered SLTP right-sizing decision even as it works to reform transmission planning more generally.

Sincerely,

A handwritten signature in blue ink, reading "Christopher Ellison", is written over a horizontal line.

Christopher T. Ellison
Ellison, Schneider & Harris, L.L.P.
Attorneys for Duke American Transmission Company