DOCKET
08-IEP-1A
DATE OCT 16 2008
RECD. OCT 16 2008

THE STATE OF CALIFORNIA
BEFORE THE
CALIFORNIA ENERGY COMMISSION

In the Matter of:	)	
	)	
Preparation of the	)	Docket No. 08-IEP-1A
2008 Integrated Energy Policy Report	)	
Update and the 2009 Integrated	)	
Energy Policy Report	)	

COMMENTS OF THE CALIFORNIA MUNICIPAL UTILITIES ASSOCIATION

Pursuant to the Notice of Committee Hearing on Committee Draft 2008 Integrated Energy Policy Report Update, the California Municipal Utilities Association ("CMUA"), respectfully submits these Comments on the 2008 Integrated Energy Policy Report Update ("IEPR Update"), CEC-100-2008-008-CTD.

CMUA's Comments touch upon certain topics contained in the IEPR Update. These Comments are not intended to be exhaustive of positions on the broad array of topics contained in the IEPR Update. Indeed, CMUA is intentionally selective, as many of the topics in the Report are centered around programs of the Public Utilities Commission of the State of California ("CPUC") and investor-owned utilities ("IOUs").

CMUA is a statewide organization of local public agencies in California that provide water, gas, and electricity service to California consumers. CMUA membership includes 43 electric distribution systems and other public agencies directly involved in the electricity industry.[1] In total, CMUA members provide electricity to approximately

[1] CMUA electric utility members include the Cities of Alameda, Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Corona, Glendale, Healdsburg, Lodi, Lompoc, Los Angeles, Needles, Palo Alto, Pasadena, Rancho Cucamonga, Redding, Riverside, Roseville, Santa Clara, and Vernon, as well as the Imperial, Merced, Modesto, Turlock Irrigation Districts, the Northern California Power Agency, Southern California Public Power Authority, Transmission Agency of Northern California, Lassen Municipal Utility District, Power and Water Resources Pooling Authority, Sacramento Municipal Utility District, the Trinity

25-30 percent of the population in California. Virtually all CMUA's members are directly or indirectly involved in the Renewable Energy Transmission Initiative ("RETI") which touches several issues in the 2008 IEPR Update.

I. COMMENTS ON THE 2008 INTEGRATED ENERGY POLICY REPORT UPDATE

A. CMUA's Members Welcome the Opportunity to Work with Commission Staff in Order to Facilitate Achieving the State's Goal of 33 Percent Renewables by 2020

The Committee Draft of the 2008 IEPR Update states that there is "a need to work with the publicly owned utilities to understand their plans for helping the state to meet the 33 percent [renewables] goal by 2020, and their views on challenges, opportunities, and changes needed to achieve even higher levels of renewables."[2] CMUA is encouraged by this language. POUs are committed to increasing the percentage of electric generation that comes from renewable sources. In fact, certain publicly owned utilities have RPS goals that exceed 33% by 2020.

Because of the great differences between the customer bases and regions of the various POUs in California, each POU poses unique challenges in integrating large percentages of renewable power. The Legislature recognized this fact when gave the regulatory authority of each POU the discretion to set its own RPS, taking into consideration the policy goals of the state.[3] The Commission must be mindful of these policy decisions when making recommendations in the IEPR.

---

and Truckee Donner Public Utility Districts, the Metropolitan Water District of Southern California, and the City and County of San Francisco, Hetch-Hetchy.

[2] California Energy Commission, Draft Committee Report, 2008 Integrated Energy Policy Report Update, September, 2008 at 12.

[3] CAL. PUB. UTIL. CODE § 387(a) ("Each governing body of a local publicly owned electric utility, as defined in Section 9604, shall be responsible for implementing and enforcing a renewables portfolio standard that recognizes the intent of the Legislature to encourage renewable resources, while taking into

CMUA generally agrees with the conclusions in the Draft 2008 IEPR Update that a significant impediment to renewable generation development is transmission. In previous comments, CMUA has called for the coordination of various transmission planning efforts.[4] While each of the many groups working on transmission planning have something valuable to add, ultimately there must be a coordinated approach. As CMUA has stated, since many contemplated transmission projects are interregional in nature, it is appropriate for planning coordination to be done regionally. CMUA supports regional transmission planning under The Transmission Expansion Planning Policy Committee ("TEPPC") of the Western Electricity Coordinating Council ("WECC"). Ultimately, this is where individual utility, CAISO, RETI and other efforts should be coordinated and/or consolidated.

B. Joint Transmission

The issue of joint ownership of transmission facilities, specifically among POUs and IOUs, was raised at Workshops and has arisen in other forums such as RETI. CMUA and several members submitted Joint Comments on this topic as well as a White Paper (as Appendix A) entitled "Experiences with Joint Transmission-Project Development in the West," authored by the IID, LADWP, SMUD, the Turlock Irrigation District, and the Western Area Power Administration.

The issue of joint ownership in transmission must be considered against the backdrop of the transmission investment needed to access renewable resources in order to

---

consideration the effect of the standard on rates, reliability, and financial resources and the goal of environmental improvement.").

[4] *See* Post Workshop Comments of the California Municipal Utilities Association, Imperial Irrigation District, Los Angeles Department of Water and Power, and the Sacramento Municipal Utilities District in California Energy Commission Docket No. 08-IEP-1B, August 1, 2008.

significantly increase renewable resource portfolios in California. CMUA applauds the Commission's recognition of the importance and benefits of joint projects.[5]

It is desirable that obstacles to joint transmission ownership be overcome. It makes sense to "right-size" facilities and garner all needed and interested participation in transmission facilities. It is makes sense to facilitate transmission siting by taking advantage of the fact that local public agencies may have existing rights of way or legal tools to site needed transmission that are not available to CPUC-jurisdictional entities. CMUA members have a long history of successfully developing interregional transmission facilities to serve their customer-owners. Many of these projects include participation by non-CMUA members and are jointly-owned with other transmission owners in California and other parts of the West:

- California Oregon Transmission Project (COTP) – this 500 kV line is part of the three-line California Oregon Intertie interconnecting the Pacific Northwest and its significant resources to Northern and Central California;

- Pacific DC Intertie (PDCI) – the PDCI is a 3100 MW, 871-mile high voltage direct current transmission system connecting the Bonneville Power Administration system in Oregon with the Sylmar substation in Southern California; and

- Southern Transmission System (STS) – jointly owned by several CMUA members, the STS interconnects Desert Southwest and Rocky Mountain resources to Southern California.

The ability of CMUA members to get transmission built in the past was recognized by the Commission. Building on that success, it is clear that additional cost-effective transmission investment is essential to meet California's renewable energy goals, and to ensure cost-effective and reliable electric service into the future.

[5] California Energy Commission, Draft Committee Report, 2008 Integrated Energy Policy Report Update, September, 2008 at 17.

Currently, some of the legal and market obstacles to joint ownership of transmission between POUs and IOUs include:

- POUs in general require durable transmission arrangements in order to support investing large sums of customer-owner capital. Durable transmission arrangements can be accomplished through binding bilateral contracts. In contrast, service under the CAISO Tariff is changeable, and terms of transmission arrangements can be modified by legal filing at the Federal Energy Regulatory Commission. These Tariff modifications occur frequently, and therefore the Tariff-based arrangement does not have the durability of a bilateral contract;

- The CAISO is moving to a market design based on Locational Marginal Pricing ("LMP") which utilizes "financial rights" rather than firm physical rights. The financial nature of service under the CAISO Tariff treats transmission rights as financial hedges against delivered energy price risk, rather than physically firm transmission service. Holding the rights, termed Congestion Revenue Rights ("CRRs"), can be risky and speculative;

- Incentives to build transmission under the CAISO Tariff are lacking for POUs. Under the coming CAISO market design, a transmission owner will either get CRRs to hedge potential congestion costs, or a rate of return on the new the transmission investment. POUs do not build transmission as a rate-of-return "profit center" but instead to serve their customer-owners. Many POUs are not willing to build simply to receive a CRR of uncertain value for the life of the transmission facility; and

- Current CAISO Tariff provisions require the CAISO to have Operational Control of the facility that is jointly owned. CMUA understands that this provision of the current CAISO Tariff is being interpreted to bar joint ownership unless the line is within the electric footprint of the CAISO Balancing Authority.

Despite these obstacles, CMUA believes joint transmission ownership is desirable and possible. To further this discussion and to complete the record of the Commission, CMUA has attached, as Attachment A, a revised version of the White Paper. CMUA also submits, as Attachment B, proposed principles for solution of this matter. CMUA appreciates the Commission's recognition and awareness of this issue and looks forward to continued constructive dialogue to remove impediments to joint transmission development.

C. Feed-In Tariffs May be One Tool to Achieve Renewable Goals. However, the CEC Should Not Recommend a Statewide Mandatory Feed-in Tariff.

The issue of "contract failure" has garnered considerable attention in the IEPR workshops, and the procurement processes of the IOUs have come under scrutiny. Based on information from its members, CMUA has found no evidence that "contract failure" is a concern for municipal utilities. Indeed, many CMUA members have entered into purchase power and development agreements that have led to "steel in the ground," not simply commitments on paper. These have included geothermal, wind, and biomass generation. This has led to a significant ramp-up of renewable portfolio amounts for municipal utilities that has been recognized in studies sponsored by the Commission.[6]

Further, as the Commission is aware, POU procurement processes are very transparent, and contract specifics are largely spelled out in open and public meetings of POU governing boards, pursuant to various state laws.[7] Thus, the POU record of contract development is open for the Commission to examine.

Feed-in Tariffs are a reaction, at least in part, to concerns that utility procurement processes are not working. There is no evidence with respect to CMUA members that this is the case; in fact the evidence shows that POU renewable procurement efforts are working. Nevertheless, POUs are not opposed to Feed-in Tariffs *per se*; indeed Feed-in Tariffs may be one tool in the toolbox used to meet procurement goals. The key is in the implementation details.

---

[6] *See, e.g.,* California Energy Commission, Consultant Report, Publicly-Owned Electric Utilities and the California Renewables Portfolio Standard: A Summary of Data Collection Activities, November 2005, CEC-300-2005-023.

[7] *See* Ralph M. Brown Act, CAL. GOV. CODE § 54950 et seq.

As stated above, California POUs have unique characteristics that require individualized regulatory approaches. The Legislature has repeatedly recognized this point, permitting the local regulatory authority to determine how statewide energy policy goals are achieved within the individual POU service territories.

CMUA would therefore be concerned if a state-wide mandated Feed-in Tariff is recommended. Issues such as the need for renewables, the existing utility portfolio mix, the overall size of the utility, rate levels, and the ability to accommodate distribution-level generation must be dealt with on a case-by-case basis. This will affect rates offered under a Feed-in Tariff, the maximum unit size, and interconnection rules.

A state-wide mandated feed-in-tariff would take away a crucial part of local control in determining how POUs will meet renewable goals and therefore the GHG reduction mandates of AB 32. Indeed, it is a very real possibility that a uniform mandate could actually hinder those efforts by incorrectly incentivizing development of types of renewable resources that do not fit well with the individual utility requirements for fuel diversity, integration, and location of resources.

In summary, the need for and design of Feed-in Tariff must therefore be particular to individual utilities, and governed by their respective regulatory authorities.

D. CMUA's Members are Fully Committed to Meeting Their Energy Efficiency Goals and Welcome Collaboration with the Commission in this Effort

The progress made by POUs on verifying and tracking energy efficiency programs has been significant, and efforts in that regard have been recognized in the Draft 2008 IEPR Update.[8] CMUA also appreciates the recognition by the Commission

[8] California Energy Commission, Draft Committee Report, 2008 Integrated Energy Policy Report Update, September, 2008 at 52.

that POUs are in the first year of AB 2021 mandated goals and that those goals have a 10-year time horizon. Programmatic changes to EE efforts cannot occur overnight, and the progress made to date has been remarkable.

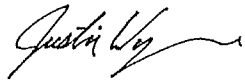
The Commission made five recommendations in the Draft 2008 IEPR Update, three of which reference POUs specifically. First, CMUA and its members would welcome participation in an industry working group to pursue the Demand Forecast-Energy Efficiency Quantifiation Project. Second, CMUA supports the recommendation that the Commission continue to work with POUs to understand POU processes for estimating cost-effective and feasible energy efficiency potentials and targets. Third, CMUA supports collaborative efforts designed to improve the overall evaluation, planning, and reporting efforts in the next AB 2021 cycle.

II. CONCLUSION

CMUA appreciates the opportunity to provide these Comments and looks forward to continued participation in the IEPR process on these important issues.

Dated: October 16, 2008

Respectfully submitted,



C. Anthony Braun
Justin Wynne
Braun Blaising McLaughlin, P.C.
915 L Street
Suite 1270
Sacramento, California 95814
(916) 326-4449
(916) 441-4068 (fax)

Special Counsel to the California Municipal Utilities Association

ATTACHMENT A

Joint Transmission Development in the West

Roadblocks and Paths to Success

Imperial Irrigation District

Los Angeles Department of Water & Power

SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT
The Power To Do More.®

TID WATER & POWER

APS®

This summary has been prepared by the Imperial Irrigation District (IID), Turlock Irrigation District (TID), Los Angeles Department of Water and Power (LADWP) and the Sacramento Municipal Utility District (SMUD) in aggregate referred to herein as California public power (CPP). In addition to these California-based balancing authorities, however, other regional entities such as the Arizona Public Service (APS) have participated in the development of this paper.

Table of Contents

1. The Growing Concerns with Joint Transmission Development 6

2. The Green Path Transmission Projects Challenges 7

3. Historical Bilateral Contract Principles 8

4. Projects that have Employed the Historical Contract Principles 8

5. Projects that are Implementing the Historical Contract Principles 10

6. The CAISO Joint Transmission Model Principles 11

7. Problems with the CAISO Joint Transmission Principles 11

8. Renewable Development and Joint Transmission Development 13

9. Proposed Solutions 15

Appendix A

1. Examples of joint transmission lines operated by Balancing Authorities other than the CAISO 17

2. Examples of joint transmission lines operated by CAISO under standard bilateral terms 18

3. Joint Transmission Projects in Arizona 18

4. Joint Transmission Projects in California Arizona 18

Executive Summary:

Joint transmission development in California continues to stall. Solutions to overcome the many barriers between the California Independent System Operator's (CAISO) tariff-based and the western region contract-based business models are needed more than ever, especially in this new era of renewable development.

Joint transmission development, simply stated, should not be a problem. Moreover, it should be encouraged. New transmission ***IS*** needed in the West, both for reliability purposes and for delivering renewable energy to load. Jointly developed and owned transmission is the most timely and efficient way to build transmission from an economic, ROW access and environmental impact standpoint. Each transmission owner will be obligated to pay its proportionate share of the costs, as well as assume its share of the risks for the planning, permitting, and constructing of the line or lines.

To justify the costs and risks, and to ensure a sufficient revenue requirement to receive the necessary approvals both from regulators and the participants' own governing bodies, each owner must have the right to establish its own tariffs and access rights to justify its investment in a joint transmission project. Indeed, all western balancing authorities are in agreement on these principles, with the exception of the CAISO. The CAISO insists that all joint transmission projects that involve its participating transmission owners must be subject to its tariff. This position is an unwarranted impediment to joint transmission development and needs to be modified to ensure sufficient transmission capacity will be added in the most timely and cost-effective way.

The purpose of this document is to inform regulators and policy makers of the growing concerns in developing jointly owned transmission projects between the California Public Power (CPP), neighboring states and the CAISO. California's joint transmission projects are lagging behind its historical patterns and the western states in a significant way. While joint transmission projects in other adjacent states, such as Arizona, are experiencing a boom, with at least a dozen transmission projects implemented and more in the planning stages, California has implemented only one joint transmission project since 1997 and none are planned. Appendix A provides a list of historical and planned joint transmission projects both inside and outside of the CAISO.

Concerns continue to be raised regarding the development of California's transmission infrastructure in response to the increasingly urgent demand for the development of renewable energy within California. The primary focus of these concerns is joint transmission development between CPP agencies and the California investor-owned utilities (IOUs) subject to the CAISO tariff. This is *not due* to the differences between public power and IOU reliability or operational requirements. Indeed, these issues do not exist in other regions in the West.[1] Rather, they stem from the CAISO's

[1] For example, between 1994 and 2003, Arizona public and private utilities placed in service 371 miles out of 447 miles of new 500kV and 230kV transmission lines through joint-transmission projects. During that same time period, 10 new high voltage substations were also placed into operation. Four out of those 10 substations were joint projects. Currently, Arizona is planning to construct over 1,000 miles of new transmission lines and 16 new high voltage substations over the next 10 years (most of them are already permitted). Of the 1,000 miles of new transmission, 150 transmission miles and five out of 16 new substations are, thus far, joint projects. By contrast, between 1994 and 2008, in California, there was only one 500 kV line segment that was built as a joint-transmission project (Path 15 segment) and no new substations. Although California load is significantly higher than Arizona ,with slightly higher load growth in Arizona, there are no joint transmission projects that are planned to be constructed between the private and public utilities in California (see Appendix A for more detail).

purported need for total control of these projects, as well as its ever-shifting business modalities. For example:

- The CAISO has interpreted its tariff to require not only that a proposed joint-ownership line be operated by the CAISO in its balancing authority area (rather than in a co-owner's balancing authority area), but also that all individual owner capacity and associated usage be subject to the CAISO tariff. The rates for the non-CAISO joint-transmission owner's defined and owned capacity would no longer be under local control but would always be subject to the CAISO tariff, which can be changed as the CAISO deems necessary, removing needed cost certainty.
- In addition, the CAISO has interpreted its tariff to require that all interconnections to, and expansions of, a line co-owned with a PTO be done under its direction. This prevents the local balancing authority from performing cost-effective integrated transmission planning – for its ratepayers, its merchant customers and its neighboring balancing authorities.

NEEDED ACTION ITEM:
***Solutions need to be found,* as outlined below, to move beyond the current deadlock on joint transmission projects between the CAISO and other balancing authorities and transmission owners. Specifically, we must constructively address the differences created by the changing CAISO business model and that of its neighbors in a way that is fair to all joint transmission project participants and to all ratepayers.**

Therefore, a framework must be adopted to move forward with joint transmission development. In order to bridge the differences that exist between the CAISO business model and that of its neighbors, a balanced and even-handed approach needs to be adopted. This framework must include:

1) Open and non-discriminatory planning process
2) Cost certainty
3) Equal sharing of costs and liabilities and
4) Negotiated control over the jointly owned project.

These four framework principles are briefly described below:

1. **Open and non-discriminatory planning process.** Currently, the CAISO tariff requires that all assets under its operational control be subject to the CAISO planning process. The CPP and APS believe that all planning should be done in accordance with Order 890 and WECC planning criteria. In such a process, all parties should be treated equally. Additionally, there should be no requirement that non-PTO submit their transmission plans under the CAISO process. Rather, these plans will be properly considered in a joint-planning process.

2. **Cost certainty**: For purposes of joint-transmission development with another balancing authority or a non-PTO entity, the CAISO must recognize and honor all agreements negotiated between the joint transmission participants, as has been the case with numerous successful joint-transmission projects between non-CAISO participants. Thus, the approved negotiated agreement between PTO and non-PTO entities should *not* be subject to changes

by the CAISO or other non-parties without the mutual agreement of the joint-development parties. Moreover, joint transmission projects should not be subject to charges or other costs imposed by the CAISO tariff, unless the joint-transmission parties otherwise agreed.

3. **Costs and liabilities**: All costs and liabilities are shared by the participants in proportion to their ownership percentages and are limited to those costs and liabilities enumerated in the agreements between joint-transmission project participants.

4. **Operational control:** Day-to-day control should be negotiated by the joint-transmission project participants. There should not be an absolute requirement, for example, that a joint-transmission project between a CAISO PTO and a non-PTO be fully under the operational control of the CAISO. Developing a balanced approach to the operational control of jointly-owned facilities has been successfully done in the past and is still being done in other parts of the West (COTP and PDCI)[2]. Therefore, there is no reason it cannot be achieved in joint projects between entities both inside and outside of the CAISO.

A collaborative process is therefore crucial to developing consensus and resolving these issues to ensure our efforts are better focused on achieving both our state and regional energy objectives.

[2] See section 4 for more detail

1. The Growing Concerns with Joint Transmission Development

Introduction: The state of California has five major grid operators (balancing authorities): the CAISO, LADWP, SMUD, IID and TID. They coexist in an era when new transmission development is lagging behind the growing demand for electricity and an ever-increasing need for renewable power. There are new regional planning organizations that have identified the long-term need for transmission development between and within the balancing authorities in the western grid. A recent and growing impediment to joint-transmission development in the West is the difficulty in structuring agreements with the CAISO. Since 1998, joint-transmission development between the CAISO and the other balancing authorities has been limited to only one project, the Path 15 Upgrade.

Prior to the Path 15 Upgrade and pre-CAISO, there was a long-standing tradition of collaborative planning, development and joint funding/ownership of major transmission lines in the West. This included the participation of many FERC non-jurisdictional public power utilities as well as jurisdictional IOUs. Projects built as a combined undertaking typically included a contract percentage allocation of the ownership rights and responsibilities, including the incremental transfer capability to each participant based on relative capital input. Upgrades to jointly held project facilities were treated in the same way. Approximately 42 percent of the transmission system in the western interconnection is owned and operated by public power entities that favor long-term contracts for transmission and energy. Public power entities realize significant benefits from long-term contracts such as grid reliability, greater economies of scale, minimal environmental impact and, most importantly, price certainty and predictability.

The CPP and APS believe that regulators and policy makers need to examine the road block issues that have surfaced concerning joint-transmission development between the CAISO and other balancing authorities. By utilities discussing and sharing their recent experiences and/or concerns, one can more easily identify mutually agreeable terms necessary to meet the need for new joint-transmission projects. In this report, The CPP and APS will share some of their recent experiences with neighboring grid operators in California, the Pacific Northwest and Arizona to expedite the development of transmission projects that would greatly aid the development of renewable energy.

Generally, the challenge in joint-transmission development with the CAISO is tariff-related. (Additional concerns are found in the "Green Path Transmission Projects" section found below.) Existing bilateral contracts between joint-development transmission partners have an element of certainty regarding terms and conditions that cannot be matched in the ever-changing rules embedded in a living tariff.

2. The Green Path Transmission Projects Challenges

In the late 1970s and early '80s, there was a boom in developing renewable-energy projects. The boom in renewable led to the development of geothermal fields primarily in Imperial and Lake counties. As a result of the boom, IID built over 250 miles of 230 kV networks in Imperial and Riverside counties, spanning from Highline (south of the Salton Sea) to the vicinity of the Devers substation in Riverside County. The double-circuit line was built with a capacity of 1600 MW. Unfortunately, only 550 MW of geothermal power was developed and IID's new 230 kV transmission system was greatly underutilized. Currently, IID has hundreds of MWs of transmission capacity available from Highland to Midway and to the Coachella Valley in Riverside County. IID planned on becoming a major hub for geothermal energy back then and still retains the vision of being a major hub for geothermal and solar energy - two essential renewable resources necessary for California to achieve its current renewable portfolio standard target of 20 percent in 2010, and its proposed target of 33 percent in 2020. With over 1800 MW in its queue today (and thousands more expected), IID is prepared to meet its obligations as a balancing authority. IID is cautious not to repeat its previous overbuild of transmission in the latest cycle of renewable energy development. The IID Green Path transmission projects are designed to respond to a need for renewable energy exports that are timely and economically effective for all ratepayers in the western grid – including California. The Green Path projects represent a coordinated set of transmission system additions and upgrades that IID undertook with neighboring balancing authorities. The development of Green Path transmission projects stem from IID's belief that parties should utilize existing transmission infrastructure coupled with targeted and strategic investments in new transmission rather than overbuilding and duplicating facilities in order to export renewable energy from the Imperial Valley.

The Green Path transmission projects are designed to utilize existing rights-of-way and capacity, optimize the utilization of the existing transmission system, join with other entities to build transmission, and benefit from the resulting economies of scale. The highlights of the Green Path transmission projects include a new 500 kV line through the southern portion of IID's service territory, and a 200-mile upgrade to existing 230 kV transmission facilities owned by IID. In addition, LADWP and IID plan to build a new 500 kV line connecting LADWP and IID balancing authorities, thus providing several new interconnections with CAISO. These projects will also provide benefits to the previously announced "west of Devers" upgrades proposed by SCE. When developed, these will permit a significant increase of renewable energy from the Imperial system. This will occur quickly and at the lowest cost to all ratepayers.

Joint transmission projects have proven to be an effective means to avoid stranded investment. The CAISO Tariff and business model make it difficult to partner with non-CAISO transmission owners on joint transmission projects. It would be patently inefficient to allow the CAISO to build a transmission project into another balancing authority's area that would result in stranded cost for that neighboring balancing authority and vice versa.

It should be noted that renewable integration will be a difficult issue to tackle. Pumped-storage facilities, such as the 1000 MW project proposed by TID and the 400 MW project proposed by SMUD, are effective solutions; however, integrating renewable energy into the grid will need more joint-transmission projects than ever before.

3. Historical Bilateral Contract Principles

Historically, bilateral contracts have used the following general principles:

1. Transmission lines are owned by the participants as "tenants in common," with each participant owning a pro rata share of the land and common facilities;
2. All costs, such as development and construction, and liabilities are shared by the participants in proportion to their ownership percentage;
3. After the line is in service, all operational costs in the form of line losses and balancing authority charges are fixed for the life of the line;
4. All other costs, such as O&M and upgrades, are shared based on each participant owning a pro rata share of the land and common facilities;
5. One of the owners typically acts as operating agent and takes direction from other owners;
6. Various administrative committees ensure all owners are appropriately involved in the oversight and administration of the project;
7. Pre-established voting processes are used for approval of budgets, major expenditures and significant operational matters;
8. Modifications to the joint ownership agreement must be approved by all owners;
9. Owners indemnify each other and the operating agent;
10. Owners have reasonable rights to approve assignment of another owner's share to a third party.

4. Projects that have Employed the Historical Contract Principles

There are several examples of jointly owned transmission projects that have played a vital role in the ability of many utilities in the western grid to serve rapidly growing customer loads for over 50 years. The result is a highly integrated transmission system that has fostered cooperation and economic coordination among the owners. Jointly owned transmission facilities are viable solutions for multiple utilities to deliver power to their native-load customers.

A. Southwest Power Link (SWPL)

A prime example of joint ownership is the 500 kV transmission lines from Phoenix to San Diego known as the South West Power Link (SWPL) where APS, IID and SDGE own the line and all arrangements are addressed in a bilateral contract between the parties. CAISO has grandfathered the IID and APS rights on the line. Over the last 20 years the parties have shared the cost of significant capacity upgrades for purposes of mutually beneficial load growth.

B. The Navajo South Transmission Line

Another prime example is the Navajo South transmission line that runs from the Navajo plant to the Moenkopi[3] switching station, which is owned by the six owners of the plant: APS, SRP,LADWP, the U.S. Bureau of Reclamation ("USBR"), Tucson Electric Power Co. and Nevada Power Co. Three of these utilities (Nevada Power, USBR and LADWP) built the Navajo West system that runs west from the plant.

[3] Both Palo Verde and Moenkopi are scheduling points with multiple entities, including the CAISO, SDGE and SCE as CAISO participating transmission owners (PTO)

C. Path 15 Upgrade

Path 15 is located in the southern portion of the Pacific Gas and Electric Company (PG&E) service area and in the middle of the CAISO's balancing authority. The project was largely financed with non-federal funds. Project participants under this public-private partnership were WAPA, PG&E and Trans-Elect New Transmission Development. The upgrade has relieved a significant transmission constraint on Path 15 in the south to north direction. This project was a model for how joint-transmission projects can be beneficial to all ratepayers and relieve a major reliability problem.

The process under which the line was built was a bit unusual but worked very well. Due to excessive congestion on Path 15, on May 17, 2001, the National Energy Policy Report recommended that President George W. Bush direct the secretary of energy to authorize WAPA to explore ways to relieve the Path 15 bottleneck through transmission expansion[4]. Through a public process, WAPA solicited proposals from non-federal entities to participate in the construction and ownership of Path 15 upgrades. WAPA ultimately selected Trans-Elect and PG&E. The Path 15 upgrade participants agreed to build a new 500 kV transmission line increasing Path 15 transfer capability from 3900 MW to 5400 MW for northbound power deliveries. The project increased transfer capability for southbound deliveries as well.

WAPA owns the most significant part of the new 500 kV transmission line and land associated with the transmission upgrade, while PG&E performed upgrades to preexisting substations and 230 kV transmission facilities. The letter agreement also provided that Trans-Elect, PG&E and WAPA each received an entitlement to the transmission system rights (TSRs). Initially, Trans-Elect received 72 percent, PG&E received 18 percent and WAPA received 10 percent of these TSRs. The final allocation of TSRs was based on the ratio of the contribution[5] made by a participant to the project, either in terms of funding or actual work performed. However, in no event will WAPA's share drop below 10 percent. The cost of the project was $306 million.

This bilateral agreement was adopted in the CAISO tariff without modification. CAISO indicated that the Path 15 situation was done under very unique circumstances and should not be seen as the model that CAISO would use for future joint-transmission projects.

The Path 15 upgrade was completed in record time and placed into operation by the end of 2004.

D. California-Oregon Transmission Project (COTP)

The COTP is a project that is jointly owned by the Transmission Agency of Northern California (TANC), WAPA and PG&E. This is a 500 kV line that serves as one of the three California-Oregon interties and connects Captain Jack Substation in Oregon and Olinda Substation in California. This is managed under the historical contract principles, with the SMUD/WAPA balancing authority operating the line, the PG&E portion scheduled under the CAISO tariff and the remaining portion scheduled under a bilateral contract arrangement.

E. Pacific DC Intertie (PDCI)

---

[4] http://www.wapa.gov/sn/ops/transmission/path15/FERCapproval/Path15FERCAccept.pdf

[5] Contributions are not always in the form of financial contributions

The PDCI is another good example of a transmission system jointly owned by the CPP and entities controlled by CAISO. It is a 3100 MW high voltage direct current (HVDC) transmission system with converter stations at both ends. The northern terminal called the Celilo Converter Station is located in the Bonneville Power Administration (BPA) system in Oregon and the southern terminal, called the Sylmar Converter Station, is located in the LADWP system. The PDCI transmits DC power at +/- 500 kV DC over an 871-mile transmission line from the Pacific Northwest to Southern California. The original station was commissioned in 1970 with an initial capacity of 1440 MW, and was later expanded in various phases to the present capacity of 3100 MW.

The PDCI is a transmission system jointly owned by BPA, SCE, LADWP, city of Pasadena, city of Glendale and city of Burbank. Currently only SCE and city of Pasadena are CAISO PTOs. The line's operational control is divided between the BPA balancing authority in the north and LADWP balancing authority in the south at the Nevada Oregon Border (NOB). LADWP is the operating and maintaining agent and the manager for all work at the Sylmar Converter Station and on the DC line up to the NOB.

5. Projects that are Implementing the Historical Contract Principles

A. PV-North Gila Transmission Project

On January 14, 2008, the Arizona Corporation Commission (ACC) approved a new 500 kV transmission line from the Palo Verde Hub to the North Gila Substation near Yuma, Arizona. This 117-mile transmission line is a joint project between IID, APS, SRP and Wellton Mohawk Irrigation and Drainage District and will be capable of transporting up to 1200 MW of energy. It has an expected in-service date of 2013. Potentially, this PV-North Gila line could be expanded an additional 110 miles from North Gila to IID Highland Substation, which is a major renewable hub just southeast of the Salton Sea. This connection between Highland and North Gila utilizes 600 MW of available capacity from IID Midway Substation, located in the heart of the renewable resources to Highland Substation.

B. Green Path North (between public power)

The second joint transmission project that is moving ahead is Green Path North. In the fourth quarter of 2005, a joint venture of two public power balancing authorities, LADWP and the IID, SCPPA and a nonprofit corporation, Citizens Energy Corporation, announced an agreement to undertake the Green Path project. Its purpose is to increase access to over 2,000 MW of geothermal and renewable resources in the Imperial Valley, and to eliminate existing transmission constraints in the southern region of California (Palo Verde and south of Lugo).

After three years of negotiations mostly over operational control of the line, and several issues that are incompatible with the CAISO tariff, the project is moving ahead but without the participation of the CAISO. Identical issues faced by the GPSW project impacted the Green Path North project as well and remain unresolved.

C. TANC Alpha, Delta, and Zeta Transmission Projects (between public powers)

This is a new transmission project being undertaken on behalf of several TANC members. It involves both 230 kV and 500 kV sections in the general Northern California area. This project will provide access to renewable energy supplies in Northeastern California as well as reliability improvements for the Northern California grid. Participation by PG&E using the existing contract arrangements with TANC could be beneficial to all California parties.

6. The CAISO Joint Transmission Model Principles

The CAISO tariff specifies the required terms and conditions for PTOs such as PG&E, SCE, SDG&E or any other entity wishing to become a PTO.

The list below is a summary of the CAISO model:

1. Must sign a PTO agreement with the CAISO to place its assets under CAISO operational control.
2. The transmission rate for the entity that signed a PTO agreement will be modified without approval from the owners of the assets consistent with the CAISO tariff.
3. CAISO fees and market charges will apply to the PTO.
4. The PTO is subject to CAISO tariff. The tariff can be changed without the explicit approval of the PTO.
5. The CAISO tariff is approved by the FERC.
6. All planning, upgrades and expansion of the assets must be approved by the CAISO
7. All applicable transmission costs are recoverable through the CAISO

The CAISO tariff also has provisions to include specific transmission asset(s) to be operated by the CAISO without becoming a PTO. This feature is called transmission ownership right (TOR), where the owner of the assets is subject to most of the above requirements.

Recently, the CAISO has adopted stringent criteria in which any joint developments of transmission infrastructure requires (1) the asset to be operated by the CAISO and (2) once in service, all operational costs, planning and expansion must comply with the CAISO tariff regardless of any contractual agreements between the various owners of the line.

7. Problems with the CAISO Joint Transmission Principles

It's our understanding that the CAISO tariff specifies the financial and operational arrangement around a new participating transmission owner (PTO) joining the CAISO. Any transmission owner could provide the CAISO with access to long-term transmission capacity in return for full payment of fixed and operating expenses, including a fixed profit for the life of the project. The CAISO will accept new capacity as long as it is needed for reliability and provides an economic benefit to the ratepayers. The CAISO collects a charge[6] from the ratepayers to compensate the transmission owner. The PTO agreement with the CAISO specifies the financial arrangement between the two parties.

Conceptually, this would appear to work; however, there have been recent proposed joint-transmission projects involving the CAISO that have not been able to come to fruition.

Two Recent Joint-Development Challenges:

[6] Transmission line users pay tariff access charges such as transmission access fees, GMC fees, etc. per megawatt hour per month.

A. Green Path Southwest (GPSW)

The three parties engaged in the GPSW were IID, Citizens Energy Inc. and SDG&E to build a 500 kV line between IID and SDG&E. The principle motivations for the joint development were:

- Utilize existing rights-of-way
- IID would lease to Citizens Energy Inc. the use of 95 percent of the transfer capability of IID's 500 kV line from the Imperial Valley Substation to a new substation in Imperial County northwest of the IV Substation in the vicinity of San Felipe
- Citizens would request PTO status from the CAISO, which would involve Citizens turning over operational control of its share of the line and recovering the costs of its entitlement in the line through a transmission access charge (TAC) paid by all CAISO load per the CAISO tariff
- The GPSW portion of the line would run through the IID service area and would be 100 percent owned by IID
- SDG&E would have greater access to renewable power to meet its state-mandated renewable portfolio standard.
- IID customers would receive low-income assistance from Citizens Energy.
- Despite the enormous benefits to all three parties, the negotiations were terminated. Talks occurred through 2006 and 2007. IID and SDG&E could not reach an agreement over several aspects of the project; among them, the appropriate route for the Imperial Valley portion of GPSW, operational control, stranded investment risks, generation interconnection to the GPSW and cost certainty. The negotiations were terminated and SDG&E has determined that it will continue its pursuit of its preferred route.

Following is a summary of barriers that have caused the termination of the GPSW joint transmission project:

- The CAISO has interpreted its tariff to require not only that a proposed joint-ownership line be operated by the CAISO in its balancing authority area (rather than in a co-owner's balancing authority area), but also that all individual owner capacity and associated usage be subject to the CAISO tariff. The rates for the non-CAISO joint-transmission owner's defined and owned capacity would no longer be under local control but would always be subject to the CAISO tariff, which can be changed as the CAISO deems necessary, removing, among other things, needed cost-certainty.
- In addition, the CAISO has interpreted its tariff to require that all interconnections to, and expansions of, a line co-owned with a PTO be done under its direction. This prevents the local balancing authority from performing cost-effective integrated transmission planning for its ratepayers, its merchant customers and its neighboring balancing authorities.

B. Green Path North (between public power and CAISO)

A portion of the GPN project where public power and CAISO share the line capacity is facing many challenges. In the fourth quarter of 2005, a joint venture of two public power balancing authorities, LADWP and the IID, SCPPA and a nonprofit corporation, Citizens Energy Corporation, announced an agreement to undertake the Green Path project. Its purpose is to increase access to over 2,000 megawatts of geothermal and renewable resources in the Imperial Valley, and to eliminate existing transmission constraints in the southern region of California.

After three years of negotiations, mostly over operational control of the line, and several issues that are incompatible with the CAISO tariff, the project is moving ahead but without the participation of the CAISO. Here again, the same issues faced in the GPSW appeared in the Green Path North project and created barriers to a joint transmission project with the CAISO.

8. Renewable Development and Joint Transmission Development

We believe that joint transmission projects are needed more than ever to ensure load-serving entities are achieving their respective mandated renewable portfolio standards (RPS) and, in the future, the greenhouse gas (GHG) targets. Transmission availability plays an essential role in making the state's renewable policy a reality. The reason is simple: Renewable energy sources (geothermal, wind) are typically localized, as are other energy sources. All in all, higher voltage, joint transmission projects are required to cost effectively move the electrical output of these resources to multiple load-serving entities in the western grid.

We support the Western Renewable Energy Zones Project (WREZ). **We believe the WREZ effort will assist all western states, load-serving entities, transmission providers, generation developers and state regulators in making informed decisions about:**

- Joint transmission to allow multiple access to energy sources
- Costs of renewable power;
- Utilize existing right-of-way and transmission capacity;
- Optimum transmission needed to move renewable power to consumers;
- Potential partners in developing transmission to access renewable areas; and
- Where renewable energy developers can site their facilities to ensure access to the transmission system and minimize environmental impacts.

Joint -transmission development is essential to promote a regional view of renewable development through collaborative efforts. Regional transmission planning and joint ownership will promote access to renewable resources and pave the way for interstate collaboration on:

- Permitting of multi-state transmission;
- Allocating and recovering cost of new transmission, and
- New approaches to interconnection and transmission service queuing problems.

The 34 balancing authorities within the 11 western states and two Canadian provinces (western grid) should not be perceived as obstacles in the regionalization of renewable development. The fact that energy has been transacted amongst the 34-plus control areas across the western grid is living proof that regional control areas (now balancing authorities) have worked together without the need for a single or larger footprint of control (RTOs, ISOs). There are several factors in place to ensure the renewable market is not balkanized:

1. WECC regional transmission planning groups are working collectively to build joint transmission
2. The formation of the WREZ

3. The formation of the RETI groups in multiple states
4. The recent 2005 Energy Act regarding NERC reliability standards wherein all balancing authorities have to comply with the same reliability criteria
5. The recent FERC large generation interconnection policies that ensure the same homogenous rules in providing access to the transmission system by all users have been adopted by public power balancing authorities and transmission authorities
6. The fact that public power has embraced meeting RPS requirements
7. The recent announcement of WestConnect[7] and its co-petitioners to offer customers the option of purchasing hourly non-firm point-to-point transmission service across the transmission systems of multiple participating providers (participants) at a single regional transmission rate, as an alternative to pancaked point-to-point transmission service
8. The sub-regional transmission planning is being performed by Southwest Transmission Planning Group (SWAT), the Colorado Coordinated Planning Group (CCPG) and any other sub-regional transmission planning (STP) groups that form and make up the WestConnect planning area. Annually a 10-year integrated regional transmission plan is derived from their efforts that coordinate all transmission plans across the WestConnect planning area.
9. The U.S. Department of Energy and the National Renewable Energy Laboratory (NREL) are commencing the western wind integration study for several states in the West. The study will examine the operating impacts and mitigation options associated with the variability and uncertainty of wind and solar power on the utility grids. This is the largest regional wind integration study undertaken to date that will investigate significant penetrations of wind and solar on the grid, in line with the western governors' Clean and Diversified Energy Initiative target of 30 GW clean energy by 2015 and the president's Advanced Energy Initiative that says wind can supply up to 20 percent of U.S. electricity consumption.

[7] WestConnect is an unincorporated, voluntary membership association governed by a memorandum of understanding among its members. The WestConnect membership currently consists of a group of 13 electric utilities providing transmission service in the western interconnection. Its members include investor-owned utilities and consumer-owned utilities, as well as one federal power marketing administration. Most of the WestConnect members own and operate a transmission system that is interconnected with the transmission system of one or more of the other WestConnect members such that they form an interconnected grid stretching from Western Nebraska to Southern California, and from Wyoming to the Mexican border.

9. Proposed Solutions

California was among the first states to enact a renewable portfolio standard (RPS) and currently has one of the most aggressive portfolio requirements in the country.

The governor and the state's Energy Action Plan (EAP) have endorsed a further goal that 33 percent of electricity needs are served by renewable sources by 2020, in part, as a strategy for meeting the greenhouse gas emission reduction requirements of Assembly Bill 32.[8] Meeting these RPS goals will require a substantial amount of new transmission development, as most large-scale renewable resources are located in remote areas rather than near the state's major load centers. Resolving the joint transmission development issues outlined in this paper is a prerequisite to achieving the objectives of the state's EAP and ensuring the success of initiatives such as the Renewable Energy Transmission Initiative (RETI) and regional planning forum.

a. CAISO Proposed Solution

In early 2007, the CAISO filed a request for a declaratory order and obtained Federal Energy Regulatory Commission (FERC) approval to develop a financing mechanism for the construction of generator interconnection facilities to access location-constrained resources. Location-constrained resources are defined as new generation resources that are typically constrained as a result of their location, relative to size and the immobility of their fuel source. The financing mechanism would initially roll the costs of interconnecting these facilities into the transmission revenue requirement of a new or existing participating transmission owner that constructs the facility. The CAISO filing referenced IID's Salton Sea area as a potential location-constrained resource area. Although the CAISO proposal would provide incentives to connect renewable resources, as a general policy matter, it should not be used as an alternative or as a tool to avoid cost-effective joint-transmission development between the parties.

b. Moving forward with joint-transmission projects.

CPP believes a constructive framework must be adopted to move forward with joint-transmission development. In order to bridge the differences that exist between the CAISO business model and those of its neighbors, a new framework, which provides a balanced and even-handed approach, needs to be adopted. This framework must include: 1) open non-discriminatory planning; 2) cost certainty; 3) equal sharing of costs and liabilities; and 4) negotiated control over the jointly owned project. These framework principles are briefly described below:

1. **Open and non-discriminatory planning process.** Currently, the CAISO tariff requires that all assets under its operational control be subject to the CAISO planning process. The CPP and APS believe that all planning should be in accordance with Order 890 and WECC planning criteria. In such a process, all parties should be treated equally. Additionally, there should be no requirement that non-PTO submit their transmission plans under the CAISO process. Rather, these plans will be properly considered in a joint-planning process.

[8] Chapter 488, September 27, 2006.

2. **Cost certainty**: For purposes of joint-transmission development with another balancing authority or a non-PTO entity, the CAISO must recognize and continue to honor all agreements negotiated by the joint transmission participants, as is the case with the numerous existing and planned joint transmission projects between non-CAISO participants. Thus, the approved negotiated agreement between PTO and non-PTO entities should NOT be subject to changes by the CAISO or other non-parties without the mutual agreement of the joint-development parties. Moreover, joint0transmission projects should not be subject to charges or other costs imposed by the CAISO tariff, unless the joint-transmission parties otherwise agree.

3. **Costs and liabilities**: All costs and liabilities are shared by the participants in proportion to their ownership percentages and are limited to those costs and liabilities enumerated in the agreements between joint-transmission project participants.

4. **Operational control:** Day-to-day control should be negotiated by the joint transmission project participants. There should not be an absolute requirement, for example, that a joint-transmission project between a CAISO PTO and a non-PTO be fully under the operational control of the CAISO. Developing a balanced approach to the operational control of jointly-owned facilities has been successfully done in the past and is still being done in other parts of the West. Therefore, there is no reason it cannot be achieved in joint projects between entities both inside and outside of the CAISO.

A collaborative process is therefore crucial to developing consensus and resolving these issues to ensure our efforts are better focused on achieving our state's energy objectives.

Appendix A

1. Examples of joint transmission lines operated by Balancing Authorities other than the CAISO

A. **Four Corners Project** (generating station, large switchyard, multiple transmission lines and substations) features participant ownership by APS, SRP, EPE, PNM, TEP and SCE. SCE as a PTO has 32 percent co-tenancy ownership of the Four Corners 500 kV switchyard, 12 percent in the Four Corners 345 kV switchyard and 48 percent in the Four Corners 345/500 kV transformer bank where SCE also has a 48 percent interest in generation units #4 and #5. All these joint assets are operated by APS Balancing Authority (BA).

B. **The Pacific DC line** from Oregon to Los Angeles is another example of joint-development transmission projects between BPA, LADWP, SCE, city of Pasadena, city of Glendale and city of Burbank. Currently only SCE and City of Pasadena are CAISO PTOs. The line's operational control is divided between the BPA balancing authority in the north and LADWP balancing authority in the south at the NOB.

C. **Victorville-Lugo 500 kV Interconnection Agreement:** the line is co-owned between LADWP and SCE, whereby the line operational control is divided between the two parties at the halfway mark.

D. **California-Oregon Transmission Project (COTP) 500 kV** transmission line owned by TANC, PG&E and WAPA and operated under the SMUD BA/WAPA Sub-BA.

E. **Intermountain Power Project (IPP) Southern Transmission System (STS)** is a transmission system owned by Intermountain Power Authority (IPA) but with transmission rights by six Southern California Public Power Authority (SCPPA) agencies under a power purchase agreement between IPA and SCPPA. Three of the SCPPA agencies in this agreement are CPP (city of Glendale, city of Burbank, and LADWP) and the other three entities (city of Pasadena, city of Anaheim, and city of Riverside) are controlled by CAISO. It is a 1920 MW high voltage direct current (HVDC) transmission system with converter stations at both ends; the northern terminal called the Intermountain Converter Station is located in Delta, Utah, and the southern terminal called the Adelanto Converter Station is located in Southern California. LADWP is the BA for the entire IPP STS. The IPP STS transmits DC power at +/- 500 kV DC over a 488-mile transmission line from Utah to Southern California. The original station was commissioned in 1986 with an initial capacity of 1600 MW, and was later expanded with cooling system upgrade to the present capacity of 1920 MW.

Here again, the STS is a transmission system jointly shared by LADWP, city of Glendale, city of Burbank, city of Pasadena, city of Anaheim, and city of Riverside. LADWP, city of Glendale, and city of Burbank are CPP and city of Pasadena, Anaheim, and Riverside are CAISO PTOs. The entire STS is within LADWP's balancing authority. LADWP is also the operating agent and operates, maintain and acts as project manager for all work at the STS facilities (converter stations and the DC line) according to the provisions of the bilateral agreement among the participating agencies.

2. Examples of joint transmission lines operated by CAISO under standard bilateral terms

A. **The South West Power Link (SWPL):** the line from Palo Verde to Miguel Substation in San Diego is a joint transmission line between SDG&E, IID and APS. SDG&E became a PTO and placed the line under the CAISO BA.

B. **Path 15** is also a joint transmission project where the line is owned by WAPA and operated by CAISO

C. **El Dorado 500 kV system** is owned by SCE, SRP, LADWP and NPC. The lines are operated by CAISO

D. **The Malin – Round Mountain #1 500 kV line** linking Oregon and California is owned by WAPA and operated by CAISO

E. **The Malin – Round Mountain #2 500 kV line** linking Oregon and California is partially owned by PacifiCorp and operated by CAISO

3. Joint Transmission Projects in Arizona

A quick look at the state of joint-transmission projects development in Arizona shows quite of bit of activity. On average, Arizona utilities are building a high voltage transmission line and a substation every 18 months with significant collaboration between the two IOUs and three public powers. This clearly demonstrates that the issue in the lack of joint transmission development in California is not the lack of collaboration between utilities but the lack of integration between the two business models that exist in California.

The table below illustrates Arizona's successful transmission projects over the last ten years as well as proposed transmission projects for the next 10 years:

Transmission	Transmission Lines Built Over Past Ten Years (1994 - 2003)		Voltage	In Service	Circuit Miles Added	SRP (PUBLIC)	APS (PRIVATE)	TEP (PRIVATE)	SWTC (PUBLIC)	WAPA (PUBLIC)	DPA (PUBLIC)
1	Mead - Phoenix Project		500kV	1996	256	x	x			x	
2	Southwest Valley Project		500kV	2003	47	x	x				
3	Schrader (RS16) Project		230kV	1997	68	x			x		
4	Browning - Santan Project		230kV	2001	28	x					
5	West Phoenix - White Tanks		230kV	2001	30		x				
6	Rudd - Liberty		230kV	2003	12		x				
7	Pinnacle Peak - Reach		230kV	2002	5		x				
8	Saguaro - Tortolita #2		500kV	2003	1			x			
	TOTAL				447						
	Total Joint transmission projects				371						
	Total Joint transmission projects %)				0.829977629						
New Sub	New Substations Built Over Past Ten Years (1994 - 2003)										
1	Perkins		500kV	1996		x	x			x	
2	Marketplace		500kV	1996		x	x			x	
3	Yavapai		500kV	1996			x				
4	Hassayampa		500kV	2002		x	x				
5	Browning		500kV	2001		x					
6	Rudd		500kV	2003		x	x				
7	Schrader		230kV	1997		x			x		
8	Knox		230kV	2000		x					
9	Reach		230kV	2002			x				
10	Raceway		230kV	2003			x				
New Transmission	Transmission Lines To Be Added in Next Ten Years										
1	Palo Verde - Pinal West	permitted	500kV	2006	61	x	x	x			
2	Pinal West - Santa Rosa	permitted	500kV	2007	13	x	x				
3	Santa Rosa - Browning	permitted	500kV	2011	87	x					
4	Palo Verde - TS5	permitted	500kV	2007	46	x	x	x			
5	TS5 - Raceway	permitted	500kV	2010	40	x	x				
6	South - Gateway	permitted by state	345kV	2005	60			x			
7	Westwing - Raceway	permitted by state	230kV	2010	10		x				
8	Raceway - Avery	permitted by state	230kV	2008	20		x				
9	Avery - TS6 - Pinnacle Peak	permitted by state	230kV	2009	32		x				
10	Gila Bend - TS8(Yuma)		230kV	2012	115		x				
11	Apache - Winchester	under construction	230kV	2004	21				x		
12	Pinal West - Tortolita	planned	500kV	2012	60			x			
13	Dine Power Authority NTP	permitted	500kV	2008	350						x
14	Rudd - TS3	permitted	230kV	2006	18		x				
15	TS3 - TS1	permitted	230kV	2008	7		x				
16	TS5-TS1		230kV	2007	13		x				
17	Westwing - El Sol		230kV	2013	11		x				
18	Tortolita - South	permitted	345kV	TBA	68			x			
	TOTAL				1021						
New Substations	New Substations To Be Added in Next Ten Years										
1	Winchester	permitted	345kV	2004				x	x		
2	Pinal West	permitted	500kV	2006		x	x	x			
3	Santa Rosa		500kV	2007		x	x	x			
4	TS5 500/230kV		500kV	2007		x	x	x			
5	Raceway		500kV	2010		x	x				
6	Gateway	permitted	345kV	2005				x			
7	RS19		230kV	2008		x					
8	TS6		230kV	2009			x				
9	TS4		230kV	2006			x				
10	TS3	permitted	230kV	2006			x				
11	TS1	permitted	230kV	2007			x				
12	Avery	permitted	230kV	2008			x				
13	TS2		230kV	2012			x				
14	TS8		230kV	2012			x				
15	Second Knoll		345kV	2009			x				
16	NE3		345kV	2010			x				

You can see that between 1994 and 2003, Arizona public and private utilities placed in service 371 out of 447 miles of new 500kV and 230kV transmission lines through joint-transmission projects. During that same time period, 10 new high voltage substations were also placed into operation. Four out of those 10 substations were joint projects. Currently, Arizona is planning to construct over 1000 miles of new transmission lines and 16 new high voltage substations over the next ten years (most of them are already permitted).

Of the 1000 miles of new transmission, 150 transmission miles and five out of 16 new substations are, thus far, joint projects.

By contrast, between 1994 and 2008, in California, there was only one 500 kV line segment that was built as a joint-transmission project (Path 15 Upgrade) and no new substations. Although the California load is significantly higher than Arizona's (with Arizona having a slightly higher load growth) there are no joint transmission projects that are planned to be constructed between the private and public utilities in California.

4. Planned Joint Transmission Projects between CPP and CAISO in California

None planned!

ATTACHMENT B

September 23, 2008

Joint Transmission Issue Statement &
Proposed Principles for Solution

1. It is very likely that new transmission facilities, to access certain Renewable Energy Zones and/or transmit renewable energy to load centers across the West, will be necessary to reach renewable goals, making inter-regional cooperation imperative.

2. The investment in this new transmission will likely amount to tens of billions of dollars for California entities, and much more West-wide. Transmission owners in California and throughout the West will have to join together to accomplish this task and appropriately share these costs.

3. Time is of the essence. The lead time to build these significant transmission projects will be 7-10 years. The failure to build needed transmission jeopardizes achieving Renewable Portfolio Standard goals. Obstacles to joint transmission projects that can be removed should be removed expeditiously.

4. California Public Power (CPP) members have rights to almost half the import transmission capacity in California. CPP members believe it is beneficial to California that CPP members, other non-CAISO Participating Transmission Owners (PTOs) and transmission owners that are PTOs under the California Independent System Operator (CAISO) tariff be able to jointly invest in needed transmission. Further, since over two-thirds of the transmission providers in the West operate under a bilateral or multi-party contract business model, it will be necessary for all California transmission owners to partner with other utilities in the West that use the bilateral business model.

5. Neither CPP members, nor other utilities in the West that are non-PTOs, share the business model of the CAISO. For CPP members and other non-PTOs, building under the CAISO paradigm is difficult because its business model fails to provide cost certainty and non-PTOs may be forced to give up operational control of their shares of jointly-owned lines. Currently, CPP members and PTOs own existing transmission jointly, and accommodations have been made in the past to make each utility's business model work, side-by-side for the benefit of all California.

6. We need to return to a cooperative arrangement as CPP believes that both business models can co-exist and joint transmission projects between PTOs and non-PTOs can work as they have in the past. To do this, the CAISO and CPP members must reach agreement on operational and cost issues, and reduce those agreements to contracts that have durability and cannot be changed without mutual agreement of the Parties. Durability is necessary, because these capital intensive assets that are financed over decades.

7. To accomplish California's Renewable Portfolio Standard goals, it is critical that the CAISO allow its PTOs to invest in transmission over which CAISO does not have physical control and allow non-PTO partners to retain operational control of their shares. Currently, SCE, Anaheim and PG&E believe they cannot invest in transmission jointly with a CPP member such as Los Angeles, IID, or SMUD unless the transmission is within the CAISO Balancing Authority Area and subject to the costs, terms of operation, and control of the CAISO under its tariff.

8. CPP believes the CAISO's inflexibility on these issues is inconsistent with prior FERC policy directives, existing practice and common sense, and is impeding transmission investment. This is not simply an issue that affects CPP members and how they work with the CAISO. This is an issue that also implicates how California will be able to work with the rest of the West to get needed joint transmission built.

General Principles for Joint Transmission Development

Set forth below are fundamental principles that would form the basis of agreements establishing terms of any joint transmission project (JTP) developed and operated between transmission owners including both PTOs under the CAISO tariff and Non-PTOs, such as the CPP entities.

1. Neither party should "force" the other (s) to comply with their business model. CPP entities recognize that decisions on the cost certainty and effectiveness of transmission for PTOs go through both a CAISO Transmission Planning process and a CPUC rate making process. Likewise, the decision to spend consumer-owner dollars on transmission for CPP entities resides with locally-elected boards. The JTP agreement must reflect and respect these differences.

2. Contract durability between affected entities, not subject to unilateral modification once the agreement is signed and approved by FERC. A JTP agreement and associated operating agreement(s) (collectively "JTPPA"), shall govern all terms of development, use and operation of the jointly-owned line or lines. There is precedent for an agreement-based treatment of transmission assets, including agreements governing the CAISO, and for agreements that supersede conflicting tariff provisions.

3. Balancing authority jurisdiction. A determination as to which Balancing Authority the JTP resides in shall be made by the JTP Participants/Owners and subject to the JTPPAs.

4. Operational control does not require physical control. Operational control of the JTP line or lines shall be determined by the JTP Owners and subject to the JTPPAs. The CPP interpretation of "Operational Control" under the CAISO tariff

does not mean "physical control." FERC has determined that "Operational Control" does not require that the line or lines reside in the CAISO Balancing Authority in order for JTP Owners, who desire to become PTOs, to receive transmission revenue rate recovery through the CAISO transmission access charge or its wheeling access charge. The CPP interpretation is consistent with FERC precedent, yet the CAISO maintains that the decision should be determined on a "case by case".

5. Price Certainty. Only the portion of a JTP transmission line's (or lines') capacity which is turned over to the CAISO's operational control, whether that line is in or outside of the CAISO Balancing Authority, shall be subject to the CAISO tariff. The remaining capacity on that line shall be assessed only those charges specifically set forth in the JTPPA.

6. JTP Participant Consultation. Consistent with Order 890 and WECC planning criteria, JTP Participants shall consult with the affected Balancing Authorities in a manner sufficient to ensure the project is the most expeditious and economic transmission option.

Our preference in any resolution to this issue is to move forward in an expedited manner and be an equal partner with the CAISO.