CALIFORNIA ISO

California Independent
System Operator

Memorandum

To: ISO Board of Governors

From: Armando J. Perez, Director of Grid Planning

CC: ISO Officers, ISO Board Assistants

Date: June 20, 2002

Re: ***Path 15 Upgrade Project Approval***

This memo requires Board action.

EXECUTIVE SUMMARY

ISO Management has determined that the Path 15 Upgrade Project (Project) will promote economic efficiency, and is requesting the ISO Board of Governor's approval of the Project as a necessary and cost-effective addition to the ISO Controlled Grid. With this approval, the cost of the project would be eligible for recovery as part of the Project Proponent[s] Participating Transmission Owners Transmission Revenue Requirement (TRR) through the ISO High Voltage Access Charge, although the level of costs to be recovered and cost allocation issues would be subject to further proceedings before the Federal Energy Regulatory Commission (FERC).

In general, the Project consists of a 500kV transmission line that extends between Pacific Gas and Electric Company's (PG&E) Los Banos Substation and PG&E's Gates Substations. There are associated substation modifications including 230kV system reinforcements that are also required but not detailed in this memo. Overall, the total cost of the Project, including reinforcement, is estimated to be between $300 million to $350 million and, should Project development begin within the next year, could be in-service by late 2004.

The purpose of the Project is to relieve the transmission bottleneck that currently exists between southern and northern California. Technical studies performed by PG&E and reviewed by ISO staff have demonstrated that this Project is not needed to meet the ISO Grid Planning Standards. However, an analysis of the Project performed by the ISO Department of Market Analysis (DMA) shows that building the Project will provide significant economic benefits to California ratepayers; the expected benefits would likely match the 30-year Project cost in the first four years of operation.[1]

Due to the nationwide visibility that California has received as a result of the Path 15 constraint, there has been a significant focus by state and federal agencies as well as private organizations to develop an acceptable process to upgrade Path 15. At present, there are two on-going efforts which merit mention in this memo. In March of 2001, California Public Utilities Commission (CPUC) President Lynch issued an Assigned Commissioner's Ruling directing PG&E to file with the CPUC an application for a Certificate of Public Convenience and Necessity (CPCN) to upgrade Path 15. PG&E complied, but later filed to withdraw its application. The CPUC treated the filing as a motion and denied it; hence the proceeding is still underway. The proceeding initially focused on a Path 15

[1] *"Summary of the ISO Department of Market Analysis Study on the Economic Benefits to California Load from Expanding Path 15"*; June 17, 2002 (*See* Attachment 1)

upgrade undertaken by PG&E alone but is currently scheduled to assess how this approach compares to a second approach by a consortium led by the Western Area Power Administration (WAPA). The WAPA consortium developed after President Bush, in May of 2001, directed the Secretary of Energy to authorize WAPA to explore relieving the Path 15 bottleneck through transmission expansion. WAPA undertook a solicitation to identify entities interested in participating in a project to upgrade Path 15. This process, which has evolved over time, resulted in a consortium of public, and private entities (PG&E, Trans-Elect, Inc. (Trans-Elect), and WAPA) filing for and receiving approval by FERC for certain ratemaking treatment associated with the Project. The physical aspects of either approach (PG&E only or the WAPA consortium) are essentially identical. Moreover, both approaches entail turning Operational Control of the Path 15 upgrade to the ISO and recovery of the project costs through the ISO Transmission Access Charge.

ISO Management recommends the following motion for consideration:

> **Moved, that the Board of Governors,**
>
> ***Find that a Path 15 Upgrade Project having a cost with a net present value of no more than $500 million and providing a benefit of no less than 1400 MW of added transfer capability over Path 15 is needed as a necessary and cost effective addition to the ISO Controlled Grid and should be accepted, without regard to route, as part of the ISO Controlled Grid, without selecting the preferred Participating Transmission Owner to undertake the project and without indicating an opinion on the structure and level of the TRR of the relevant Participating Transmission Owner[s] with regard to the Project.***

BACKGROUND

The constraint along the Path 15 transmission corridor has been the direct cause of higher Energy prices in California as well as contributing to the need for firm Load shedding within the ISO Controlled Grid. As shown in Figure 1, Path 15 is a transmission interface located in the southern portion of the PG&E Service Area that is in the middle of the ISO Control Area. The majority of the power flow between southern California and northern California and the Pacific Northwest is through Path 15; the remaining small percentage (loop flow) goes through Arizona, Nevada, Utah and Idaho.

Prior to electric restructuring, congestion on Path 15 resulted in uneconomic dispatch and operating problems as operators tried to control flows. After electric restructuring the problems continued, but also resulted in strategic bidding behavior such as under-scheduling. Consequently, a proposal to upgrade Path 15 by an additional 1500 MW of capacity by adding a third 500 kV line between PG&E's Los Banos and Gates transmission substation facilities has been made. The ISO has worked cooperatively with PG&E, state, and federal agencies and, most recently, Trans-Elect to assess the economic benefits of upgrading Path 15. In February 2001, the ISO completed an analysis of the cost of congestion over Path 15 from September 1999 to December 2000. In September 2001, the ISO completed an analysis of the benefits to Load from upgrading Path 15 in 2005 that included an assessment of savings from a reduction in the ability of electricity providers to exercise market power.[2] This report concluded that building the Project will provide significant economic benefits to California ratepayers and the expected benefits would likely match the 30-year Project cost in the first four years of operation.

While FERC has approved the filing that WAPA made on behalf of PG&E, Trans-Elect, and itself, the Project remains under review before the CPUC. While the proceedings are independent of each other, the physical aspects of the project under review in each proceeding are essentially identical.

CPUC Proceeding

In March of 2001, President Lynch issued an Assigned Commissioner's Ruling directing PG&E to file with the CPUC an application for a CPCN to upgrade Path 15. PG&E complied, but later filed to withdraw its application. The filing was treated as a motion by the

[2] *"Path 15 Expansion Economic Benefits Study: Phase II – year 2005 Prospect"*; September 24, 2001

CPUC and denied; hence the proceeding is still underway. Last fall the CPUC held hearings to assess the benefits to consumers from adding 1500 MW of transfer capability over Path 15. The ISO participated actively in these hearings.[3] The administrative law judge has indicated that either a decision may be issued on benefits, or the CPUC may wait to issue a decision until after it undertakes an assessment of costs. In July 2002, the CPUC will hold hearings on the costs of upgrading Path 15. PG&E has been ordered to submit testimony describing the costs to consumers using the ratemaking treatment PG&E would expect from a request to FERC for a transmission project sponsored in whole by PG&E and comparing these to the costs to consumers using the rate treatment requested by a consortium led by the WAPA.

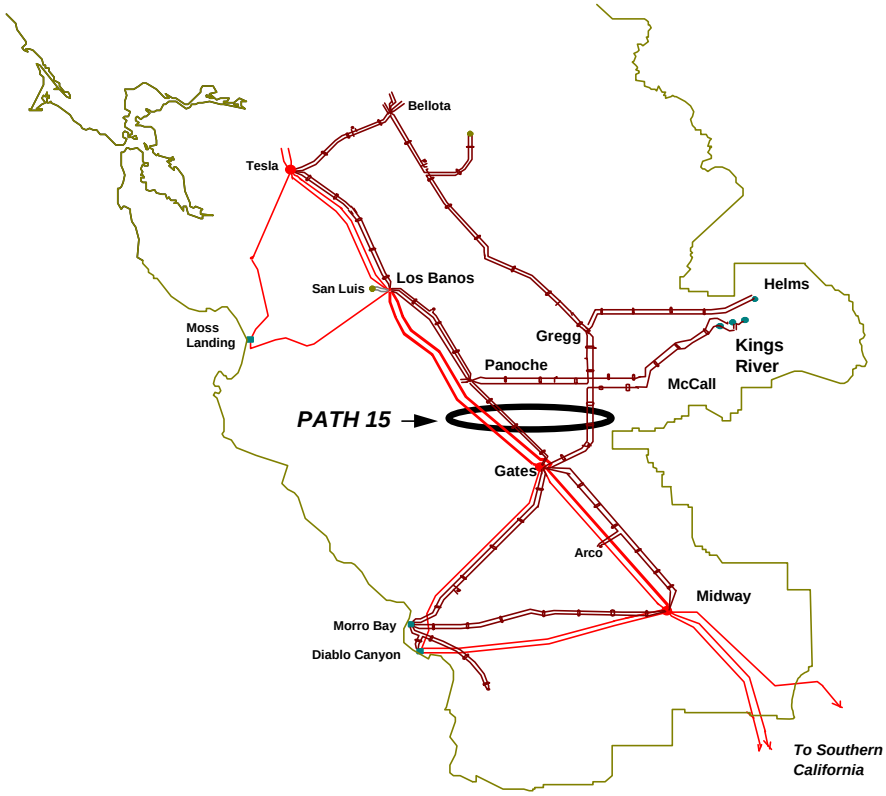

Figure 1 – Path 15 Upgrade Project

FERC Proceeding

WAPA held a solicitation to identify entities interested in participating in a project to upgrade Path 15. This process resulted in a consortium of public and private entities (PG&E, Trans-Elect, and WAPA) that have filed for approval by the FERC for certain ratemaking treatment associated with the Project.[4] [5]

[3] *"Opening Brief of the California Independent System Operator on Path 15 Benefits in Docket #A01-04-012 and Docket #I.00-11-001"*; April 10, 2002 (See Attachment 2)

[4] Letter Agreement between the Path 15 Participants of PG&E, Trans-Elect, and WAPA (See Attachment 3)

[5] *"Notice of Intervention and Protest of the Public Utilities Commission of the State of California"*; May 221, 2002 (See Attachment 4)

WAPA will own the Project and Trans-Elect, PG&E and Western will all receive an entitlement to the transmission system rights ("TSR"). Initially, Trans-Elect will receive 72%, PG&E will receive 18% and WAPA will receive 10% of the TSRs. The final allocations will be determined based on the ratio of the contribution made by a Participant to the project either in terms of funding or actual work performed.

The estimate of Participant's project costs is summarized in Table 1.

Table 1
Summary Estimate of Participant's Project Costs

Company	Dollar Investment ($,Millions)	Facility Ownership	Physical Ownership Of Facility
Trans-Elect	246.9	0%	None
PG&E	57.8	100%	Substations
WAPA	1.3	100%	Land & Transmission Line
Total	306.0		

The project operation will be coordinated with the existing transmission system and operated in accordance with prudent utility practice as a transmission facility within the ISO's Control Area. Trans-Elect will become a Participating Transmission Owner (PTO) as defined in the ISO's Tariff and, along with PG&E, will turn over the Operational Control of their Entitlement in the project to the ISO in accordance with the Transmission Control Agreement. WAPA proposes to become a PTO only with regard to their Path 15 Upgrade, and will turn over the Operational Control of one Entitlement without turning over Operational Control of its entire existing system. At present, a new participant in the ISO must turn over operational control of all its facilities. The reasoning for this was to avoid a cherry picking of transmission facilities and increased cost shifting. ISO Management believes that allowing WAPA to turn over Operational Control of just this facility is in the best interests of California.[6]

WAPA, PG&E and Trans-Elect have sought up-front FERC approval of certain ratemaking treatment associated with the Project. In particular, Trans-Elect requested a 50/50 debt/equity target capital structure, a 13.5% rate of return on equity, and a 36-month rate moratorium. PG&E requested a 200 basis point incentive on its rate of return plus a ten-year depreciation. On June 12, 2002 FERC accepted these requests.[7]

Economic Analysis of the Project

In the context of the CPUC proceeding, DMA undertook an assessment to quantify the economic benefits to consumers of Path15 Upgrade, with a particular emphasis on how this upgrade would generate benefits from mitigating the ability of suppliers to exercise market power. The results from this analysis indicate that there is a potentially significant economic benefit to consumers from the Project in terms of mitigating costs associated with market power in northern California. Based on the recently updated information on factors, such as unavailability of ETC capacity, new generation, and firmness of long term contracts, the annual benefit from the Project in a normal hydro year would be $104 M, whereas projected benefits from the upgrade in a drought year would be $306 M. The ISO concluded, in the context of the CPUC proceeding, that these benefits would pay for the Project, estimated to cost around $300 million, within four normal years.

As stated above, FERC granted WAPA, Trans-Elect, and PG&E certain ratemaking treatment associated with the Project. Based on information provided to the DMA on the annual TRR from each company over a 30-year period using this ratemaking treatment, and using a discount rate of 9.4 percent to reflect its cost to California consumers, the DMA found that the present value of the cost of this Project is approximately $473 million. This cost is very close to $474 million, which is the DMA's estimate of the present value of the

[6] *"Motion to Intervene and Comments of the California Independent System Operator Corporation"* (See Attachment 5)
[7] FERC Order Accepting Letter Agreement, Issued June 12, 2002 (See Attachment 6)

economic benefits of the Project during a four-year period (three normal hydro years and one drought hydro year). [8] The DMA did not extrapolate the estimated benefits beyond four years because the study results were based solely on projected supply and demand conditions in 2005. However, DMA believes that the upgrade will continue to provide economic benefits after the initial four-year period. Thus, DMA has determined that, using the ratemaking treatment requested by the WAPA consortium, the Project is cost-effective. Nonetheless, neither DMA nor the ISO express an opinion on whether the ratemaking treatment requested by the WAPA consortium is appropriate, but considers that this issue is best addressed between the various stakeholders in the respective regulatory proceedings that are addressing the issue. A more detailed description of the DMA analysis is provided as Attachment 1.

Given the projected benefits of the Project, ISO Management recommends the following motion:

Moved, that the Board of Governors,

Find that a Path 15 Upgrade Project having a cost with a net present value of no more than $500 million and providing a benefit of no less than 1400 MW of added transfer capability over Path 15 is needed as a necessary and cost effective addition to the ISO Controlled Grid and should be accepted, without regard to route, as part of the ISO Controlled Grid, without selecting the preferred Participating Transmission Owner to undertake the project and without indicating an opinion on the structure and level of the TRR of the relevant Participating Transmission Owner[s] with regard to the Project.

[8] A discount rate of 9.4 percent is based on the rate recently approved by CPUC on some utility-sponsored transmission projects.