

Memorandum

To: ISO Board of Governors

From: Keith Casey, Vice President – Market & Infrastructure Development

Date: October 25, 2012

Re: Briefing on Long-term Forecast of Transmission Access Charge

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The ISO has developed an internal tool to estimate future trends in the transmission access charge. The data in this tool contain the most up to date information available for reliability, policy projects, and renewable transmission projects. Based on this information, the ISO estimates that the transmission access charge rate will increase from the current rate of \$6.81 to a rate of \$12.58 in 2020. This is a smaller increase than the \$17.09 projection for 2020 that was in the February 2, 2012 letter to the ISO Board of Governors from the Northern California Power Agency (NCPA) and the Bay Area Municipal Transmission Group (BAMx). The estimates provided in their letter were based on CPUC data that have since been updated.

DISCUSSION AND ANALYSIS

On February 2, 2012 the Northern California Power Agency (NCPA) and the Bay Area Municipal Transmission Group (BAMx) sent a letter to the ISO Board and Management concerning cost containment of transmission infrastructure. Management appreciates these concerns being raised and this letter prompted the ISO to develop an internal tool to project future transmission access charges. Differences between the ISO estimates and those reported in the NCPA/BAMx letter can be divided into 3 major areas, the details of which are described below.

- 1) Difference in underlying source data
- 2) Difference in load assumptions
- 3) Difference in existing transmission projects

Differences in Underlying Source Data

The underlying data source for the NCPA/BAMx letter was the CPUC 2010 Long-term Procurement Proceeding - Evaluation Metrics Calculator (4/29/11 version). These data were subsequently updated on 7/1/11 and the ISO used this updated information to develop its estimates. There were two significant shifts in dollars between the two versions. The first was a decrease of almost \$4.1 billion dollars for existing projects between 2011-2020. The other was an increase of \$2.2 billion dollars for renewable projects, reliability projects, and policy projects for the same time period.

The transmission revenue requirement forecast for existing transmission (as provided by the IOUs for LTPP) in the evaluation metrics calculator shows a large increase of about 5% per year without attribution to specific projects. Instead of a high 5% rate, the ISO model cost estimate is based on two percent annual increases in capital maintenance of gross plant and O&M escalation as set out below in Table 1. These values provide a reasonable build-up of component costs reflecting broader industry experience and ISO expectations.

Differences in Load Assumptions

A major component of the TAC calculation is the load forecast as the transmission revenue requirement is divided by the load to determine the rate. The evaluation metrics calculator data showed virtually no load increase over the 2012-2020 period of time. The ISO forecasts 1% annual load growth from 2012-2020 which is consistent with CEC projections.

Difference in Existing Transmission Projects

The Construction Work in Progress of several major projects are added directly to rate base as funds are spent, rather than accumulating Allowance for Funds Used During Construction or Interest During Construction until the date of commissioning. This resulted in some of the expenditures associated with several of these projects already being represented in the existing TAC.

Table 1 – Key Assumptions used in the ISO TAC Estimates

Component	Assumed Value (Annual Percentage)
Capital Maintenance of Gross Plant	2%
O&M escalation rate	2%
HV Standby Credit escalation	1%
Load growth	1%
Amortization	3%

Required rate of return	8.8%
State Income Taxes	8.84%
Federal Income Taxes	35%
Depreciation	2.5%
Cost of Debt	6%
Cost of Equity	12%

Table 2 below shows the difference in high voltage transmission revenue requirements between the ISO estimates using the updated data and assumptions noted above and estimates based on the prior data and assumptions used in the evaluation metrics calculator, which was reported in the NCPA/BAMx letter.

Table 2 - Difference in Transmission Revenue Requirement Projections

Year	ANNUAL HV TRR (\$ in millions)			
	Existing/Base	Renewable	Reliability & Policy	Total
2012	(\$26.51)	(\$95.25)	(\$18.74)	(\$141)
2013	(\$105.54)	\$34.29	(\$34.81)	(\$106)
2014	(\$253.61)	\$218.58	(\$13.21)	(\$48)
2015	(\$318.86)	(\$214.20)	\$8.31	(\$525)
2016	(\$415.63)	(\$121.99)	\$74.87	(\$463)
2017	(\$523.85)	(\$212.55)	\$109.93	(\$626)
2018	(\$640.99)	(\$193.82)	\$144.00	(\$691)
2019	(\$766.06)	(\$159.86)	\$177.11	(\$749)
2020	(\$900.54)	(\$127.52)	\$209.25	(\$819)
Totals	(\$3,952)	(\$872)	\$657	(\$4,167)

Over the period of time reviewed, there is just over a \$4 billion total difference between the two estimates. This difference is made up of a smaller existing base amount, a smaller renewable amount, and a larger reliability amount.

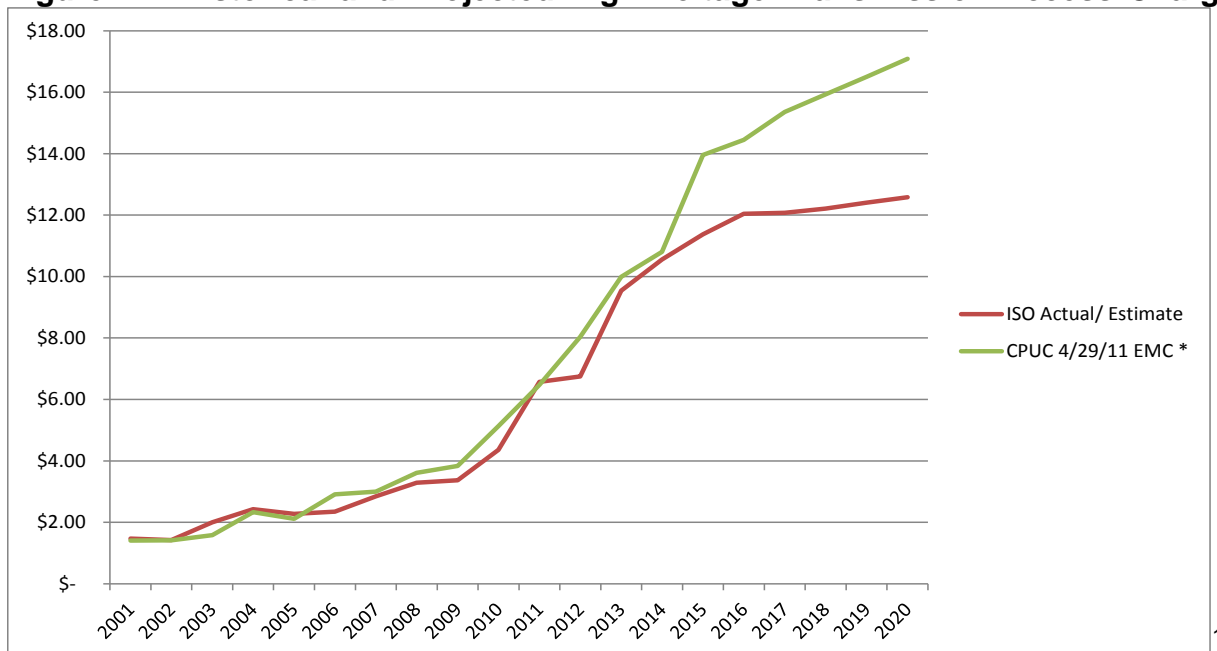
As shown in Table 3 below, these assumptions significantly reduce the projected high voltage transmission access charges, particularly in the later years of 2017-2020.

Table 3 – Difference in High Voltage Transmission Access Charges

Year	LOAD	HV TAC (\$/MWH)			
	ISO Wide Annual Gross Load (GWH)	Existing/Base	Renewable	Reliability & Policy	Total
2012	(3,158,641)	(\$0.02)	(\$0.44)	(\$0.09)	(\$0.55)
2013	(1,069,312)	(\$0.46)	\$0.17	(\$0.16)	(\$0.45)
2014	586,796	(\$1.22)	\$1.02	(\$0.06)	(\$0.26)
2015	2,129,981	(\$1.57)	(\$1.04)	\$0.03	(\$2.58)
2016	4,004,220	(\$2.09)	(\$0.65)	\$0.33	(\$2.40)
2017	6,042,639	(\$2.66)	(\$1.11)	\$0.48	(\$3.29)
2018	8,221,653	(\$3.28)	(\$1.06)	\$0.62	(\$3.72)
2019	10,068,112	(\$3.92)	(\$0.94)	\$0.76	(\$4.10)
2020	11,576,298	(\$4.59)	(\$0.81)	\$0.89	(\$4.51)

Figure 1 compares the TAC projections provided in the NCPA/BAMx letter, which were based on data from the evaluation metrics calculator, to the ISO estimated TAC projections. The figure highlights the divergence in projections in the later years with the ISO projecting a high voltage TAC of \$12.58 in 2020, compared to \$17.09 based on the evaluation metrics calculator data reported in the NCPA/BAMx letter.

Figure 1 – Historical and Projected High Voltage Transmission Access Charges



The BAMx and NCPA letter to the ISO Board and Management was based on the CPUC 2010 LTPP EMC (04/29/11 version)

Management plans to further refine and document these high voltage TAC projections as part of its 2012-13 transmission planning process and will update annually going forward as part of the transmission planning process. Management appreciates the concerns expressed by NCPA and BAMx on the escalating costs of transmission and is committed to seeking cost effective solutions to addressing infrastructure needs.