

**California Transmission Planning Group (CTPG)
Technical Study Team Response to
June 2, 2011, Comments of Arizona Public Service on the
CTPG's Proposed 2011 Work Plan**

Comment:

Arizona Public Service (APS) is pleased to work with the California Transmission Planning Group (CTPG) over the California Independent System Operator's ("California ISO's") 2011/12 planning cycle to assess the project viability and benefits of the Colorado River to Delaney 500-kilovolt line. As submitted in the project proposal to the CTPG and the California ISO, the completion of the 500-kV line on Western Electricity Coordinating Council (WECC) Path 49 has been shown in past studies to bring significant benefits including accessing thermal and renewable resources in Arizona, providing additional access to competitively-priced energy during seasonal peak demand, and enhancing the reliability of the California and WECC transmission system.

APS recognizes that many past studies have shown this project brings significant benefit but also notes that many changes have occurred over the past three years regarding this project. These changes include electric demand, environmental considerations, state laws, and general economic drivers. Instead of submitting past studies which support or oppose this project which may be based on outdated information, APS would propose to work collaboratively in mid-2011 to update the specific economic and reliability studies regarding this potential transmission element and submit these into the California ISO and CTPG processes. APS would expect that these data, once complete, would provide additional targeted information for the identification of this project as a High Priority economic or policy project to study during its planning process in 2011/12.

APS looks forward to the continued collaboration that the CTPG has offered and appreciates the CTPG's consideration of this input and additional input into this process outlined in its February 2011 response to the request of APS to consider this project.

CTPG Technical Study Team Response:

The CTPG Technical Study Team understands the benefits high-voltage AC transmission additions could potentially bring to the system. As part of its technical analysis for the 2011 study work, the team may identify reliability criteria violations that a new 500-kV line -- such as the proposed 500-kV Delaney-Colorado River #1 line -- would be effective in mitigating. As noted in the CTPG's February 1, 2011, response to APS's January 14, 2011, comments, whether there would be any reliability criteria violations the 500-kV Delaney-Colorado River #1 line might effectively mitigate will depend upon which renewable resources are actually developed and the pattern of fossil-fired generation decrements that will be made to accommodate these renewable resources.

As to APS's expectation that the proposed 500-kV Delaney-Colorado River #1 line would be identified as a "High Priority economic" project, the CTPG notes that it has decided not to conduct any "economic" evaluations in the course of its 2011 study work.

As to APS's expectation that the proposed 500-kV Delaney-Colorado River #1 line would be identified as a "policy project," the CTPG notes that the California ISO's transmission planning process is designed to identify "policy-driven" transmission projects. The CTPG assumes APS's reference to "policy project" is actually a reference to the California ISO's transmission-planning process. In this regard, the CTPG notes that because the CTPG's 2011 study work involves the analysis of scenarios to identify potential reliability criteria violations that may be encountered with the addition of renewable resources to meet California's 33% Renewable Portfolio Standard (RPS) requirement, the California ISO may well take some of the CTPG's findings—in terms of both the violations themselves as well as the transmission infrastructure additions that mitigate those violations—into consideration. However, under the California ISO's transmission-planning tariffs, the California ISO receives the CTPG's findings as an input to the California ISO's planning processes and exercises its independent judgment with respect to those findings.

Comment:

In the 2010 CTPG California Statewide Transmission Plan, the Southwest Corridor was identified as one of the corridors that warranted further study by the CTPG in 2011. This corridor that includes imports from resources in Arizona was recognized as a potential option for the state of California to import power to meet the state's RPS. APS has concerns with the approach proposed in the May 19, 2011, CTPG presentation which appears to contemplate assessing only imports from Nevada (Northwest Nevada High Potential Corridor) and appears to ignore Arizona imports.

The 2011/12 California ISO final plan outlines that the Hybrid Portfolio 4 is the portfolio "[t]he ISO considered ... a more likely scenario [which] would include moderate development of all three types of resources: large in-state, out-of-state and distributed generation." This portfolio anticipates the import of 1,090 MW of additional resource capacity supplied by Arizona imports. APS notes that this is second only to Oregon imports and represents approximately 28% of total anticipated imports projected in this plan. Nevada, in comparison, represents only 450 MW and approximately 12% of anticipated imports. The High Out-Of-State Portfolio 2 (which the California ISO stated represents the lowest cost scenario) anticipates 1,790 MW of additional Arizona imports.

APS would request that the CTPG revise its focus to align with the transmission planning assumptions supported by the California ISO and include additional case scenario "Solar Imports from Arizona" in their 2011 study plan that would include the renewable generation import from Arizona along with the imports from thermal resources that are already providing significant value to California electric customers.

CTPG Technical Study Team Response:

The CTPG Technical Study Team appreciates APS's suggestion to use the renewable resource development portfolios studied by the California ISO in its 2010-2011 transmission planning process. The CTPG Technical Study Team is unclear as to which of the two referenced renewable resource development portfolios (the California ISO's "Hybrid Portfolio 4" or the "High Out-Of-State Portfolio 2") APS is recommending that the CTPG use in its evaluation of a "high potential" southwest corridor. In any event, the CTPG suggests APS review the results of the "West-of-River Stress" scenario as reported in the CTPG's 2010 Phase 4 study report. In this scenario, the CTPG modeled the injection of 3317 MW of new renewable resources, including 2126 MW of solar resources, at buses in Arizona. This considerably exceeds the "1090 MW" and "1790 MW" included in the California ISO scenarios.

While the CTPG Technical Study Team agrees that "imports from thermal resources...are...providing significant value to California electric customers," it is not clear that the current level of thermal imports will continue as large amounts of low variable cost renewable resources are added within the WECC. With increasing amounts of low variable cost renewable energy, market clearing prices for energy across the WECC will be lower and the least efficient fossil-fired generation will be shut down or permanently retired. The extent to which existing fossil-fired generation in Arizona will be affected is not certain. However, the CTPG Technical Study Team believes a reasonable starting point for assessing this impact is to compare the variable operating costs of all existing dispatchable fossil-fired generating units in the WECC and, subject to local constraints which may require some inefficient fossil-fired generators to be on-line, assume the least-efficient units will be shut down.

Comment:

APS is concerned that the current proposed direction appears to ignore the 2011/12 resource portfolio vetted by the California ISO stakeholder process in response to California's 33% renewable portfolio standard requirement.

To further this assessment, APS appreciates the CTPG's support in requesting the California ISO undertake a High Priority economic or policy study in its 2011/12 planning process for the Colorado River to Delaney 500-kV transmission project.

CTPG Technical Study Team Response:

The CTPG Technical Study Team is unclear as to what "2011/12 resource portfolio" has been "vetted" in the California ISO stakeholder process. Section 4.2.2 of the California ISO's Final - May 20, 2011 document entitled "*2011/2012 Transmission Planning Process, Unified Planning Assumptions and Study Plan*" states, "The study scope of the 33% renewable resource analysis in this planning cycle includes the following items...Establish portfolios to be studied." It is the CTPG Technical Study Team's understanding that, as of June, 2011, no renewable portfolios

have been “vetted by the California ISO stakeholder process” for use in the California ISO’s 2011-2012 transmission planning process.

The CTPG Technical Study Team does not see a need for the CTPG to request that the California ISO undertake a study of the proposed 500 kV Colorado River-Delaney #1 line. The ISO Board-approved 2010-2011 transmission plan at page 534 (line number “96”), states that the proposed 500-kV Colorado River-Delaney #1 line is “[t]o be addressed in upcoming transmission planning study process.” The “upcoming transmission planning study process” is the California ISO’s 2011/2012 transmission planning process which is now in progress.