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IN THE MATTER OF THE APPLICATION OF SOUTHERN CALIFORNIA EDISON COMPANY AND ITS ASSIGNEES IN CONFORMANCE WITH THE REQUIRMENTS OF ARIZONA REVISED STATUTES SECTIONS 40-360.03 AND 40-360.06 FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AUTHORIZING CONSTRUCTION OF A 500 kV ALTERNATING CURRENT TRANSMISSION LINE AND RELATED FACILITIES IN MARICOPA AND LA PAZ COUNTIES IN ARIZONA ORIGINATING AT THE HARQUAHALA GENERATING STATION SWITCHYARD IN WESTERN MARICOPA COUNTY AND TERMINATING AT THE DEVERS SUBSTATION IN RIVERSIDE COUNTY, CALIFORNIA.

CASE NO. 130

DOCKET NO. L-00000A-06-0295-00130

**BRIEF OF UTILITIES DIVISION STAFF OF THE ARIZONA CORPORATION COMMISSION**

Arizona Corporation Commission
DOCKETED

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In accordance with a Procedural Order issued on April 20, 2007, Utilities Division Staff of the Arizona Corporation Commission (the "Commission" or the "ACC") ("Staff") submits its brief in the above-captioned matter. On April 4, 2007, Staff filed a request for review of the Certificate of Environmental Compatibility ("CEC") granted by the Arizona Power Plant and Transmission Line Siting Committee ("Committee"). The Committee granted the CEC on March 21, 2007 to Applicant Southern California Edison (the "Applicant" or "SCE") for a single-circuit 500 kV transmission system (the "Palo Verde/Devers 2" project or "PVD2" or "DPV2" as used by California entities). The system originates at a new Harquahala Junction Switchyard in Arizona (near the Palo Verde Hub), and terminates at the Devers Substation in California (near Palm Springs).

Staff opposes the CEC as conditioned by the Committee. Staff filed a closing brief on

November 27, 2007 (Errata filed on December 5, 2007). The closing brief included (1) proposed findings of fact, (2) proposed conditions, and (3) closing argument in support of Staff's positions. The Committee adopted some of Staff's proposals, modified other proposals, and rejected some proposals. Staff's closing argument included citations to the record and greater detail than provided in this brief for the Commission. As requested in the Procedural Order, Staff's brief will be more concise than its brief for the Committee. Therefore, Staff incorporates by reference its closing brief.

Staff requests that the Commission deny the CEC as conditioned by the Committee. Staff's proposed findings of fact and proposed conditions are supported by the evidentiary record. Staff's proposals are also in the public interest. The proposals appropriately balance need with environmental impacts of the project as required by Arizona Revised Statute ("A.R.S.") § 40-360.07(B).

If the CEC is granted, Staff requests in the alternative that the Commission adopt its proposed findings of fact and proposed conditions in the form requested by Staff. In its request for review, Staff said that it would review its proposals and describe concessions made during a "meet and confer" meeting with the parties. See below for a discussion of concessions. Staff will also discuss changes made by the Committee that it now accepts.

If Staff's alternative request is granted, Staff still does not support the project. Projections and modeling are necessary to determine need for PVD2. There is great uncertainty because projections and modeling are used. Nevertheless, the evidence shows that economic benefits accrue primarily to California ratepayers, while economic costs accrue primarily to Arizona ratepayers. Staff's modeling results show net economic costs for Arizona ratepayers.[1] But the magnitude of costs is impossible to accurately predict.[2] Therefore, Staff cannot support the project. Staff also does not support the project because alternative projects could provide net benefits to Arizona ratepayers. The alternative projects would relieve interstate congestion similarly to PVD2.[3]

Staff's proposed conditions are intended to create sufficient reliability benefits for Arizona

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[1] Tr. Vol. IX at 1970:15-20; 2390:5 to 2391:8.
[2] Tr. Vol. XII at 2424:23 to 2425:17.
[3] Tr. Vol. VIII at 1621 to 1628; 1658 to 1659; Vol. X at 2214:1-7; 2224:24 to 2227:16.

ratepayers. Sufficient reliability benefits are necessary to partially offset the lack of economic benefit and lack of need for resource adequacy for Arizona ratepayers. A partial offset is justified because PVD2 will provide transmission and commercial enhancements for the Western Grid. If Staff's conditions are adopted, Staff does not oppose the project.

Staff next provides a brief summary of the standard of review for this proceeding. Arizona law has not changed significantly since 2005. The standard, however, could be viewed differently because of the Energy Policy Act of 2005 ("EPAct 2005"). The CEC included two findings of fact related to EPAct 2005. The findings should be made in this case, but Staff disagrees with the conclusions of the findings in the CEC.

Following the summary, Staff provides arguments for its proposed findings of fact and conditions. Staff also incorporates by reference its request for review. The request for review provides specific language changes for incorporating Staff's proposed conditions. Staff will not repeat the requests provided in the earlier filing. But Staff does modify some of the requests in this brief. (See findings of fact numbers twenty-two and twenty-three).

## STANDARD OF REVIEW

The above captioned proceeding is a case of first impression for applying the standard of review under A.R.S. § 40-360.07(B). The Applicant asks the Commission to approve PVD2 based primarily on the economic need of California ratepayers. In *Grand Canyon Trust v. Arizona Corporation Commission*, 210 Ariz. 30, 107 P.3d 356 (App. 2005), the Court of Appeals of Arizona held that the Commission could consider interstate need under A.R.S. § 40-360.07(B).[4] The court further explained that the Commission has considerable discretion for determining need:

> The statute gives the Commission the obligation to conduct the balancing in the broad public interest and leaves considerable discretion to the Commission in how to determine need under the statute. We cannot say that *in an integrated wholesale market power both in and out of the state will not affect the availability of power for consumers in Arizona.*[5]

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[4] *Grand Canyon Trust*, 210 Ariz. at 36-37, 107 P.3d at 3662-363.

[5] *Id.*, 210 Ariz. at 38, 107 P.3d at 364 (emphasis added).

The primary question presented in this case is how to balance the need of California ratepayers with the need of Arizona ratepayers.

Notwithstanding the complexity of facts in the record, the question is actually quite simple. Should the Commission approve a project that will create economic benefits for California ratepayers and economic costs for Arizona ratepayers? The answer: it depends.

Siting[6] for PVD2 has been subject to at least three different standards, and may be subject to a fourth standard. The project has been approved by the California Independent System Operator ("CAISO") and by the California Public Utilities Commission ("CPUC"), each using its own standard. If the project is subject to backstop siting authority by the Federal Energy Regulatory Commission ("FERC"), EPAct 2005 and FERC's Order 689[7] provide a federal standard.

The CAISO Board approved the project on February 25, 2005, and approved an updated plan of service on September 9, 2006.[8] The CPUC issued a CPCN on January 25, 2007. Although the CAISO and CPUC considered operational and other benefits, their approval was based primarily on economic benefits for California ratepayers. CAISO's tariff allows projects based only on economic efficiency, and projects based only on reliability.[9]

In Decision No. 07-01-040, the CPUC held that "upon balancing the substantial economic, operational, and other benefits of the DPV2 project against the unavoidable environmental risks, we

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[6] Environmental permitting was conducted under the National Energy Policy Act ("NEPA") by the United States Department of Interior, Bureau of Land Management ("BLM") and under California Environmental Quality Act ("CEQA") by the CPUC's Energy Division. BLM and the CPUC's Energy Division issued a joint Environmental Impact Report and Environmental Impact Statement ("EIR/EIS") on October 25, 2006. *See* Exhibit A-27; *see also In the Matter of the Application of Southern California Edison Company (U 338-E) for a Certificate of Convenience and Necessity Concerning the Devers-Palo Verde No. 2 Transmission Line Project,* Application 05-04-015, Decision 07-01-040, Public Utilities Commission of the State of California, January 25, 2007 ("CPCN").

[7] *Regulations for Filing Applications for Permits to Site Interstate Electric Transmission Facilities*, Docket No. RM06-12-000, Order No. 689, United States of America, Federal Energy Regulatory Commission, November 16, 2006.

[8] Tr. Vol. XIII at 2565:14-19.

[9] *See* S-12 at CAISO FERC Electric Tariff, Original Sheet No. 317, Section 24.1, Determination of Need (Effective March 1, 2006) ("A Participating TO or any other Market Participant may propose a transmission system addition or upgrade. The ISO will determine that a transmission addition or upgrade is needed where it will promote economic efficiency ***or*** maintain System Reliability....") (emphasis added).

find that the DPV2 project should be approved."[10] The CPUC also cited SCE data showing (1) a net gain for CAISO ratepayers of $542 million, (2) a net gain of $125 million for Western Energy Coordinating Council ("WECC") ratepayers, and (3) a net *loss* of $74 million for Arizona ratepayers through 2014.[11] The CPUC explained "the results in Table 3 indicate that Arizona customers will not benefit from DPV2 during the modeled years."[12] In an attempt to discount the economic impact on Arizona ratepayers, the CPUC further explained:

> However, SCE's evaluation *assumes no additional generation is built in Arizona* to take advantage of the 1,200 MW of transfer capability added by DPV2. Nor does SCE's evaluation recognize that, with DPV2, the increased ability to pool resources *could* provide benefits to Arizona as well as to California. The increased transfer capability *could* be used to provide emergency support to Arizona as well as to California during unanticipated conditions such as the loss of a major generating facility or of another high-voltage transmission line, or during natural disasters.[13]

The CPUC does not cite sufficient evidence to support the above conjecture. Most importantly, it cites no quantification of benefits justifying $74 million of quantified costs to Arizona ratepayers. Incredibly, the CPUC claims that additional Arizona generating capacity is needed *for California ratepayers* to take advantage of PVD2. The CPUC states:

> In its updated evaluation of DPV2, SCE forecasts that no existing Arizona capacity would be available to provide firm capacity to California when DPV2 comes online. The WECC forecasts a regional reserve margin for the Southwest of 21% in 2008, declining to 19% in 2013. Thus, it appears likely that DPV2 would be able to deliver 1,200 MW of firm summer peak capacity to California *only if additional capacity is built in Arizona* for that purpose.[14]

Nevertheless, the only standards the Commission is required to follow are the standards set out in A.R.S. §§ 40-360.06 and 40-360.07(B). The environmental standard is set out in A.R.S. § 40-460.06; and the need standard is set out in A.R.S. § 40-360.07(B). The parties dispute whether PVD2 satisfies both standards. Staff believes that the CEC as currently conditioned does not meet Arizona's need standard.

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[10] CPCN at 5.
[11] *Id.* at 15-16, Table 3.
[12] *Id.* at 15-16.
[13] *Id.* at 60 (emphasis added).
[14] *Id.* at 43 (emphasis added).

A.R.S. § 360.07(B) specifically requires "the need for an adequate, economical *and* reliable supply of electric power."[15] The language of the statute is clear and unambiguous. The use of "and" requires the Commission to consider all three need factors. For example, if a project results in economic benefits, the Commission would still need to evaluate resource adequacy and reliability to determine the "broad public interest." If one need factor is less compelling than the other factors, then one or both of the other factors must be more compelling to justify siting a project.

The language in *Grand Canyon Trust* provides further guidance to the Commission for comparing interstate and intrastate need. The Arizona Court of Appeals emphasized the impact of an integrated wholesale market on *the availability of power for Arizona consumers.* An appropriate reading of the language requires determination of need from the perspective of Arizona ratepayers. Interstate need should be considered under A.R.S. § 40-360.07(B). But siting a project for interstate need should not result in excessive detriment to the need of Arizona ratepayers.

The Court of Appeals decision is consistent with the CPUC's Methodology for Economic Assessment of Transmission Projects. The CPUC stated that "[a]s the DPV2 analyses demonstrate, [economic] benefit projects can vary widely based on relatively minor variations in key parameters and modeling conventions."[16] The CPUC held in its Order that it would not provide a rebuttable presumption for CAISO's economic methodology, i.e. the TEAM approach.[17] The CPUC Order provided six general guidelines. Two are especially relevant to PVD2: (1) "*The perspective of CAISO ratepayers is of primary importance in CPCN proceedings*, although there is value in reviewing benefit-cost results from other perspectives as well"; and (2) "In addition to energy benefits, other economic effects of a transmission project may be considered, including economic effects that may not be quantifiable."[18]

Arizona's siting statute requires all three need prongs to be evaluated, and does not allow a project based on only one prong. In contrast, CAISO's tariff allows projects based only on economic

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[15] A.R.S. § 40-360.07(B) (emphasis added).

[16] *Order Instituting Investigation on the Commission's Own Motion into Methodology for Economic Assessment of Transmission Projects*, Investigation 05-06-041, Decision 06-11-018, CPUC (November 9, 2006) ("CPUC Methodology for Economic Assessment") at 60.

[17] *Id.* at 23.

[18] *Id.* at 4 (emphasis added).

efficiency, and projects based only on reliability.[19] Even though SCE argues that PVD2 will improve reliability and resource diversity for Arizona ratepayers, SCE proposed PVD2 "as a project . . . identified to lower production costs within California, *it's a project based on economics.*"[20] In other words, SCE developed PVD2 to meet the economic needs of California and CAISO ratepayers.[21] SCE did not develop the project to meet need for Arizona ratepayers.

Of course, the conflicting standards could be an issue for FERC backstop authority. EPAct 2005 and Order 689 set out several standards that are relevant to PVD2. Section 1221 of EPAct 2005 created backstop authority for FERC to site interstate transmission facilities.[22] FERC will have discretion to use its backstop authority if state siting authorities fail to act or act in certain ways.[23] FERC may also invoke its backstop authority if state law does not provide for consideration of interstate benefits.[24]

Under its backstop authority, FERC may issue permits for "*construction or modification* of electric transmission facilities in a *national interest electric transmission corridor* ["NIETC"] *designated by the Secretary* [of Energy]."[25] FERC declined to delay its rulemaking for Order 689 and held, "[w]hile *the Commission has no authority to issue a permit unless a facility is in a National Corridor*, this does not affect the Commission's ability to put in place the filing requirements that will apply once National Corridors are designated."[26] Section 368(a) of EPAct 2005 also requires designation of NIETCs for the eleven Western States no later than two years after August 8, 2005.[27]

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[19] *See* S-12 at CAISO FERC Electric Tariff, Original Sheet No. 317, Section 24.1, Determination of Need (Effective March 1, 2006) ("A Participating TO or any other Market Participant may propose a transmission system addition or upgrade. The ISO will determine that a transmission addition or upgrade is needed where it will promote economic efficiency ***or*** maintain System Reliability....") (emphasis added). But note that CAISO could consider both.

[20] Tr. Vol. VI at 1354:1-5 (emphasis added).

[21] Tr. Vol. V at 967:6-10.

[22] *Id.* at Section 1221(b).

[23] *Id.* at Section 1221(b)(1)(C).

[24] *Id.* at Section 1221(b)(1)(A)(ii). Note that the *Grand Canyon Trust* decision satisfies the standard.

[25] *Id.* at Section 1221(b) (emphasis added).

[26] *Id.* (emphasis added).

[27] EPAct 2005, Section 368(a).

On April 26, 2007, U.S. DOE issued its final draft NIETC for the Western Region. The new draft NIETC reversed the draft issued on June 9, 2006. The original draft identified a corridor from Phoenix to California that follows Interstate 10 ("I-10").[28] The new draft does not identify a specific corridor. Instead, it identifies an area that covers the entire southwestern region of Arizona, including the Palo Verde Devers No. 1 ("PVD1") corridor.[29]

EPAct 2005 and the rules promulgated under it may be considered under A.R.S. § 40-360.06(A)(9). A.R.S. § 40-360.06(A)(9) provides that the Committee may consider

> as a basis for its action with respect to the suitability of...transmission line siting plans....[a]ny additional factors *which require consideration* under applicable *federal* and state laws pertaining to any such site.[30]

Because EPAct 2005 probably provides backstop siting authority for PVD2, it is both necessary and appropriate for the Committee to consider the federal law under A.R.S. § 40-360.06(A)(9).

There are three primary FERC standards that may apply to PVD2. In its rulemaking for Order 689, FERC was asked to "address the Commission's jurisdiction over facilities that span multiple States where one State may have approved the facilities and another does not."[31] FERC held that it "would have to review the operation of the facility as a whole."[32] In addition to FERC's rulemaking for implementation of backstop authority, EPAct 2005 required FERC to review and revise its Open Access Transmission Tariff ("OATT"). On February 17, 2007, FERC issued Order 890.[33] A threshold standard in Order 890 is to ensure that all market participants may determine "whether a particular transmission plan treats all loads and generators comparably."[34]

Section 1221(b)(1)(C)(ii) of EPAct 2005 set out two additional standards applicable to

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[28] *See* Ex. S-7. Staff stated that EPAct 2005 *may* provide backstop authority in its closing brief.

[29] *Draft National Corridor Designations: Key Findings and Conclusions*, U.S. Department of Energy, April 26, 2007. (Attached hereto as Attachment A is a copy of these findings and attached as Attachment B is a copy of the map depicting the corridor area.)

[30] A.R.S. § 40-360.06(A)(9) (emphasis added).

[31] Order 689 at 20, ¶ 35.

[32] *Id.*

[33] *Preventing Undue Discrimination and Preference in Transmission Service*, RM05-17-000, RM05-25-000, Order No. 890, Federal Energy Regulatory Commission, 2007 WL 496841 (F.E.R.C.), February 16, 2007 ("Order 890").

[34] Order 890, ¶ 84.

PVD2. It provides that

> the State *conditions* the construction or modification of the facilities in such a manner that the proposal *will not significantly reduce transmission congestion in interstate commerce or is not economically feasible.*[35]

In Order 689, FERC declined to provide more specific standards for the two criteria in Section 1221(b)(1)(C)(ii).[36] FERC said that it would apply the criteria on a case-by-case basis.[37] Thus, the three relevant FERC standards are (1) whether a particular transmission plan treats all loads and generators comparably, (2) whether permit conditions result in a project which does not significantly reduce transmission congestion in interstate commerce, and (3) whether permit conditions are not economically feasible.

Next Staff provides argument on its proposed findings of fact and proposed conditions. Staff also clarifies statements made in its request for review.

## STAFF'S PROPOSED FINDINGS OF FACT SHOULD BE ADOPTED

Staff does not take issue with some of the findings of fact in the CEC. Therefore, Staff only addresses findings of fact related to Staff's proposed conditions. Again, Staff's brief is not exhaustive of all issues raised by its witnesses. For a more comprehensive discussion of Staff's positions, please refer to the closing brief for the Committee. In particular, Staff provided a very detailed analysis supporting its position on need.

In finding of fact number one, there is an implied claim that PVD2 strengthens the Southwestern transmission grid.[38] The implied claim is misleading because CAISO reliability standards are used to justify use of special protection schemes ("SPS") or remedial action schemes ("RAS").

Mr. Smith specifically testified that "this Commission is not supportive of the use of special protection schemes for new installations. And the reason for that is from a reliability standpoint,

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[35] EPAct 2005, Section 1221(b)(1)(C)(ii) (emphasis added).
[36] Order 689 at 20, ¶ 34.
[37] *Id.*
[38] "The Project will help to reduce congestion on Path 49 between Arizona and California....Reducing this congestion strengthens the Southwestern transmission grid."

when you are having [sic] to use these types of features, it is saying you are pushing the system to its limits."[39] Thus, the SPS proposed for PVD2 could actually weaken the reliability of the grid. Note that Mr. Smith did not claim that SPS are never useful. He explained that SPS "provide some real value so that you can do things on a short-term basis, not something that requires an ongoing reliance on those on a first level basis."[40]

EPAct 2005 permits states to set reliability standards higher than the minimum requirements set by regional (e.g. the Western Electric Coordinating Council ("WECC")) and national reliability organizations (e.g. the National Electric Reliability Council ("NERC") which has been designated as the Electric Reliability Organization ("ERO") under Section 1211(c) of EPAct 2005).[41] NERC will set reliability standards used by FERC.[42] CAISO testified that it has the authority to and has set reliability standards higher than WECC and NERC.[43] CAISO witness Ms. Le Vine also testified that the CAISO FERC tariff provides similar authority.[44]

Accordingly, Staff requests that the last sentence of finding of fact number one be stricken. For similar reasons, Staff also requests the Commission to strike finding of fact number four.[45] Apparently, SCE claims that resource reliability could be increased because there would be additional paths for generation to flow from the Palo Verde Hub to California.[46] Special protection schemes are needed for the double-circuit towers. And the separation of 130 feet between PVD1 and PVD2 is insufficient (i.e. an outage to one line could cause an outage to the other line). As a result, the additional line may not enhance flows during emergency situations.

Staff next requests that findings of fact number three, number eight and number eleven be stricken. The findings imply that PVD2 is a project intended to increase resource diversity, including access to renewable energy. The evidence does not support the findings. The amount of merchant

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[39] Tr. Vol. XI at 2238:17-19.
[40] *Id.* at 2240:23 to 2241:2.
[41] Tr. Vol. X at 2143:22 to 2145:9.
[42] *Id.*
[43] Tr. Vol. XIII at 2603:1-9.
[44] *Id.* at 2603:10-22.
[45] "The Project may enhance grid and resource reliability, especially in emergency situations."
[46] Tr. Vol. IV at 813:2-9; 853:13 to 855:8; 876:25 to 877:11; 879:22 to 880:3; Vol. V at 1111:9-18; Vol. XIII at 2731:18 to 2732:16.

generation at the Palo Verde Hub is approximately 5,000 MWs of gas-fired generation.[47] Staff witness Mr. Robert Gray testified that PVD2 will likely use gas-fired generation at the Palo Verde Hub to replace older gas-fired generation in California.[48] SCE acknowledged the displacement in its application, and even credits the project for regional reductions in gas-fired emissions.[49]

The evidence does not support increased access to renewable energy sources. Renewable energy in California will likely stay in California to meet the portfolio requirements in California.[50] Moreover, the TransWest project and Project Zia are independent projects with sufficient demand in Arizona to be viable projects. There is no evidence that they will be downsized or abandoned in the absence of PVD2.[51] It is, therefore, inappropriate to assign a benefit to PVD2 for these projects. Finding of fact number twelve should be stricken.

Finding of fact number six assigns economic benefits to PVD2 from construction and taxes. The finding is completely irrelevant to the balancing test in A.R.S. § 40-360.07(B). The only economic benefits that are relevant to siting a transmission line are those that result in "an economical supply of electric power." Construction jobs and purchases, and property and income taxes, do not fall within the scope of the balancing test. Furthermore, construction jobs may not be filled by Arizona residents.[52] A.R.S. § 40-360.06(A)(8) emphasizes that for siting purposes only costs that represent "a potential increase in the cost of electric energy to the customers or the applicant" are relevant. SCE's argument seeks to turn costs into benefits. Therefore, finding of fact number six should be rejected.

Findings of fact number fourteen and fifteen are misleading and speculative. Finding of fact number fourteen assumes development of natural gas infrastructure is needed only for increased

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[47] *See* Tr. Vol. IV at 910:17 to 911:15 (2004 Statement to CAISO about 6,500 MWs of available merchant generation at the Palo Verde Hub may not include 1,500 MW of generation from Red Hawk. Red Hawk is now an APS owned facility. Tr. Vol. V at 1140:6-8.). The available merchant generation at the Palo Verde Hub is gas-fired. *See* Tr. Vol. X at 2089:18 to 2091:4.

[48] Tr. Vol. X at 2094:18 to 2099:11.

[49] Ex. A-27 at D.11-27, Section D.11.4. See also finding of fact number sixteen.

[50] Tr. Vol. XI at 2342:22 to 2343:3.

[51] Tr. Vol. VII at 1629:17-23; Vol. IX at 2016:21 to 2017:24; Vol. XII at 2415:1-10; Vol. XIII at 2724:10-17.

[52] Tr. Vol. V at 1069; Vol. XII at 2480:1-4.

generation at the Palo Verde Hub because of PVD2. Additional transmission and new storage are needed to meet Arizona's growing natural gas demand. Storage is also needed for Arizona utilities to help meet El Paso Natural Gas' ("EPNG") strict new operational requirements. The requirements were adopted in EPNG's 2005 rate case[53] and related proceedings. The "offset" described in finding of fact number fourteen is unlikely to occur; therefore, the finding should be stricken.

Finding of fact number fifteen raises several important issues. First, modeling assumptions are questionable when applied to a deregulated market (California) and simultaneously to a regulated market (Arizona). The production cost modeling conducted by SCE and Staff assumed a deregulated market in Arizona. A deregulated market means that all generation is bought and sold on the spot market. The conclusion in finding of fact number fifteen assumes the opposite extreme.[54] Staff witness Matt Rowell testified that the actual situation in Arizona is more of a hybrid of the two extremes. Mr. Rowell testified that Arizona utilities often buy generation from merchants on a long term basis with prices not indexed to spot prices at the Palo Verde Hub.[55] Thus, the conclusion in finding of fact number fifteen is misleading and should be stricken.

In conclusion, Staff respectfully requests that all of its proposed findings of fact listed in its closing brief be adopted without substantial modification. Staff's proposed findings of fact are listed on page 38 of the brief.

## STAFF'S PROPOSED CONDITIONS SHOULD BE ADOPTED

Staff's conditions are necessary to ensure Arizona ratepayers receive sufficient benefits from PVD2. Benefits from the project must accrue to Arizona ratepayers to offset detriments to resource adequacy and increased generation costs. In finding of fact number twenty, the Committee found, "The Project is not required to meet the resource adequacy of Arizona ratepayers." Staff agrees with the finding and cited evidence to support it in its closing brief for the Committee.

In finding of fact number twenty-one, the Committee found that PVD2 "does not sufficiently

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[53] *See* FERC Docket No. RP05-422.

[54] "If these two assumptions are adjusted to comport with Arizona realities, the estimated production cost increases will be smaller."

[55] Tr. Vol. XII at 2400:18-24.

demonstrate Arizona ratepayers have an economic need for the Project." Again, Staff agrees with the finding and cited relevant evidence in its closing brief. Balancing the need for reliability for Arizona ratepayers against economic costs of the project is the most critical issue in this case.

Before addressing reliability, Staff first corrects its position related to CEC condition number twenty-three. In its request for review, Staff stated that it disagreed with (1) the ten year time limitation and (2) with the limitation to proceedings before the CPUC and FERC.[56] Staff reviewed its concessions in the Meet and Confer and its closing brief. Staff agreed with both limitations. Accordingly, Staff withdraws its request for modification of CEC condition number twenty-three.

Most of Staff's proposed conditions ensure reliability benefits accrue from PVD2 for Arizona ratepayers.[57] In its closing brief, Staff used an equitable need analysis and analyzed evidence for each prong of A.R.S. § 40-360.07(B) for both California and Arizona. Because Staff agrees with the Committee's findings on resource adequacy and economic need, it will not repeat arguments from its closing brief. However, Staff does note that there is great uncertainty about the economic costs of the project for Arizona ratepayers.

Staff witness Mr. Rowell testified that current economic models are insufficient to accurately predict precise numbers for benefits and costs.[58] Mr. Rowell testified that Staff witness Mr. Rajat Deb created a model based on the Western Grid. He drew a general conclusion based on the model that there is an economic benefit for the Western Grid, but an economic detriment for Arizona.[59] Mr. Rowell presented the numeric output of the modeling. Mr. Deb's model predicted net economic costs to Arizona ratepayers of approximately $242 million.[60]

But Mr. Rowell explained that Arizona relies less heavily on spot, wholesale markets for generation than California.[61] Arizona utilities include a significant portion of their generation in their cost-of-service because they own generation. Finally, Mr. Deb's analysis showed that the spot prices

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[56] See Staff's Request for Review, filed April 5, 2007, at 3, line 23 to 4, line 13.

[57] If Staff does not address a condition in this brief, it relies on its position as set out in its Request for Review.

[58] Tr. Vol. XII at 2466:5 to 2468:13. *See also Id.*. at 2394:24.

[59] *Id.* at 2469:19 to 2470:7.

[60] Ex. S-25 at 9.

[61] Tr. Vol. XII at 2397:4 to 2398:11 (Just like SCE's production cost model, Mr. Deb's

at the Palo Verde Hub would increase by $2.90 per megawatt hour ("MWh") in 2010.[62] This increase is approximately 5%.[63]

The potential for significant economic costs for Arizona ratepayers requires offsetting reliability benefits to satisfy A.R.S. § 40-360.07(B). Staff's conditions appropriately create minimal reliability benefits to make the project acceptable. In this proceeding, Staff witness Mr. Jerry Smith testified that Arizona has "raised the bar in terms of our expectations beyond what has traditionally been viewed as needed to meet the minimum WECC reliability criteria."[64] Staff recognizes that WECC permits use of SPS for N-1 contingencies. Mr. Smith testified that SPS' have become commonplace in California and are used for many extra high voltage ("EHV") transmission lines.[65]

California's transmission grid has not been a model of reliability. Arizona has avoided many of the reliability problems that have occurred in California. Arizona's reliability standards have served Arizona ratepayers well and should be maintained, even for interstate projects. Staff requests that its proposed language for CEC condition 24 be adopted.

One of the most significant issues in this proceeding is the potential for CAISO to expand its control area into the footprint of WestConnect. Staff witness Mr. Jerry Smith testified that Staff is "simply trying to preserve the integrity of opportunity for the WestConnect RTO once it forms to assure that there are no exacerbating Seams issues that occur as a result of this new transmission line that [is proposed to] be under the Cal-ISO control and tariff."[66]

If PVD2 is under CAISO control in Arizona, Arizona regulators, WestConnect and Arizona utilities would not be able to develop their own FERC tariff for operating the portion of the line in Arizona. Representatives of CAISO testified that CAISO's control area is determined by the Western Electric Coordinating Council ("WECC").[67] Generally, to be in the CAISO control area transmission facilities must be owned by transmission operators ("TOs") as defined by CAISO's

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production cost model assumes all generation is purchased on the spot market.).

[62] Ex. S-25 at 10.

[63] Tr. Vol. VII at 2413:6-23.

[64] Tr. Vol. X 2152: 12-19.

[65] Tr. Vol. X at 2057:3-6; 2164:23-25; Vol. XI at 2238:22-24.

[66] Tr. Vol. X at 2175:13-18.

[67] Tr. Vol. XIII at 2601:19 to 2602:17 (testimony of Ms. LeVine and Mr. VanPelt).

tariff, and be electrically connected to the CAISO controlled grid.[68] Without Staff condition 6(b), Arizona would concede to expansion of CAISO's authority in Arizona.

Generators, that choose to interconnect to a CAISO controlled line, must sign contracts with the CAISO. SCE's Request for Offers ("RFO") also includes this requirement.[69] The generators would have to make their capacity available to the CAISO during system emergencies. This requirement supersedes contractual obligations.[70] An individual State should have and does have the authority to choose the RTO it invites into its jurisdiction.

## CONCLUSION

Staff respectfully requests the Commission to balance the three prongs of need with the environmental impacts of PVD2 as set forth in (1) this brief, (2) Staff's Request for Review, and (3) Staff's closing brief for the Committee. The evidence in the record supports Staff's positions. Most importantly, Staff's positions are necessary to protect the broad public interest.

RESPECTFULLY SUBMITTED this 7th day of May, 2007.

Christopher C. Kempley, Esq.
Keith A. Layton, Esq.
Legal Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007
(602) 542-3402

**Original and twenty-five (25) copies of the foregoing filed this 7 day of May, 2007 with:**

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

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[68] *Id.*
[69] Tr. Vol. XIII at 2628:9 to 2629:5.
[70] *See, e.g.* Ex. S-12, *See* Section 7.4.2.3 System Emergencies of CAISO's FERC tariff.

**Copies of the foregoing mailed this 7 day of May, 2007 to:**

Thomas H. Campbell
LEWIS & ROCA
40 North Central Avenue
Phoenix, Arizona 85004-4429
Attorneys for APS

Donald Begalke
P.O. Box 17862
Phoenix, Arizona 85011-0862

William D. Baker
Ellis & Baker P.C.
7310 N. 16th Street
Suite 320
Phoenix, Arizona 85020-5276

Thomas W. McCann
Central Arizona Water Conservation District
23636 N. 7th Street
Phoenix, Arizona 85024

Timothy M. Hogan, Executive Director
Arizona Center for the Law in the Public Interest
202 E. McDowell Road
Suite 153
Phoenix, Arizona 85004-4533

Walter Meek
Arizona Utility Investors Association
2100 N. Central Avenue
Suite 210
Phoenix, Arizona 85004

Jay Moyes
Steve Wene
Moyes Storey
1850 N. Central Avenue
Suite 1100
Phoenix, AZ 85004

Michael W. Patten
Laura Sixkiller
Roshka DeWulf & Patten
400 E. Van Buren Street
Suit 800
Phoenix, Arizona 85004-2262

Court S. Rich
Rose Law Group
6613 N. Scottsdale Road
Suite 200
Scottsdale, Arizona 85250

Patrick J. Black
Fennemore Craig P.C.
3003 N. Central Avenue
Suite 2600
Phoenix, Arizona 85012

Scott S. Wakefield
RUCO
1110 W. Washington Street
Suite 220
Phoenix, Arizona 85007

Larry K. Udall
Michael Curtis
Curtis Goodwin Sullivan Udall & Schwab PLC
2712 N. 7th Street
Phoenix, Arizona 85006

Dawn A. Wilson

# Attachment A

# U.S. DEPARTMENT OF ENERGY

# Draft National Corridor Designations: Key Findings and Conclusions

# April 26, 2007

**Designation of a National Corridor:**

- Represents a determination by the Department of Energy (DOE) under section 216(a) of the Federal Power Act (FPA) [created by section 1221(a) of the Energy Policy Act of 2005] that consumers are being adversely affected by transmission capacity constraints or congestion, and that resolving the area's electricity problem (or problems) is a matter of sufficient national importance to warrant the exercise of the Secretary's discretion to designate a national interest electric transmission corridor (National Corridor).

- Provides a potential siting venue at the Federal Energy Regulatory Commission (FERC) for transmission facilities within the area bounded by the National Corridor pursuant to FPA section 216(b). (See Regulations for Filing Applications for Permits to Site Interstate Electric Transmission Facilities, Order No. 689, 71 Fed. Reg. 69,440 (Dec. 1, 2006), FERC Stats. & Regs. ¶ 31,234 (2006)(Final Rule).

**Principal Generic Findings and Conclusions regarding the Draft National Corridor Designations**

- With these draft National Corridor designations, the DOE is encouraging a full consideration of all options available to meet local, regional and national demand – including more local generation, demand response, and energy conservation measures. A designation does not direct anyone to build a transmission facility in a certain area or determine the route for any proposed transmission facility. Nor is it an assertion that additional transmission capacity is the only, or preferred, solution to resolve the congestion. In other words, the Federal government is *not* dictating *how* the States, regions, transmission providers or electric utilities should meet their energy challenges.

- A National Corridor should cover a sufficiently broad geographic area. It should be large enough to help facilitate access to a range of possible generation sources that could serve the congested area, and preserve the options of State authorities and private companies to determine which generation sources are of principal interest. It should also be broad enough to allow consideration of a range of potential

transmission projects and routes by the appropriate transmission planning entities, siting authorities (e.g., State agencies and, under certain conditions, FERC) and prospective transmission developers.

- In determining the boundaries of the two draft National Corridors, DOE did not carve out environmentally sensitive lands because the statute does not exclude such lands from inclusion in a National Corridor. In the event of a FERC siting proceeding, FERC would conduct a review under the National Environmental Protection Act, which would include analysis of alternative routes for that project, including route realignments necessary to avoid adverse effects on the environment, landowners, and local communities. Therefore, DOE has attempted to make the draft National Corridors broad enough to encompass a range of alternative routes for potential transmission projects, thus leaving the determination of the best route for a specific project to the siting authorities, who are better positioned to make such a determination.

  Further, nothing in FPA section 216 alters the applicability of Federal environmental and cultural statutes and regulations. Thus, any permit issued by FERC would be subject to all the requirements of Federal environmental or cultural statutes and regulations. Such requirements approvals would include approvals that are required from the Fish and Wildlife Service, and from State agencies that administer the Clean Water Act, the Clean Air Act and the Coastal Zone Management Act (which are Federal statutes administered by State agencies).

  Finally, any routing of a transmission facility through property owned by the United States or a State would be subject to the consent of the appropriate Federal or State land-managing agency, because the statute does not grant the holder of a FERC permit the right of eminent domain over such land.

- A National Corridor should have specific, readily identifiable boundaries, so that government officials, land-owners, and other parties will be able to determine easily whether specific areas are within the Corridor. Accordingly, DOE proposes to make the boundaries of these draft National Corridors coincident with the boundaries of enclosed counties.

- A National Corridor should remain in place for a substantial period of time, because it takes 5 to10 years or longer to develop proposals for new transmission facilities (or alternatives to them), obtain government approvals, obtain rights-of-way, and put such new infrastructure in place. As a general practice, DOE proposes to make National Corridor designations for an initial period of 12 years, with the possibility of renewal or extension under appropriate conditions (such as while an application remains under consideration by FERC), and has used that period for these draft National Corridors designations.

**Principal Findings and Conclusions Concerning the Draft Mid-Atlantic Area National Corridor Designation**

- Since at least 2004, transmission constraints have been limiting electricity flows on key trunk lines in Pennsylvania-New Jersey-Maryland Interconnection (PJM) and the New York Independent System Operator (NYISO), causing persistent congestion that adversely affects consumers in downstream urban load centers, including those in the metropolitan New York City area, New Jersey, eastern Pennsylvania, Delaware, eastern Maryland, the District of Columbia, and northern Virginia.

- Modeling for DOE's 2006 Congestion Study projected that, without corrective action, the congestion in this area, with its adverse effects on consumers, will continue or worsen.

- As a result of transmission constraints, high-production-cost generators in eastern PJM and southeastern New York State are used extensively, while generating capacity at lower-production-cost generators in western PJM and western and northern New York State is available but inaccessible. These additional costs are passed on to electricity consumers.

- In terms of the additional electricity production costs they cause, the constraints in PJM and NYISO are among the worst in the entire Eastern Interconnection. PJM, for example, reported total congestion costs within its footprint of $2.09 billion for 2005.

- Congestion problems, when severe, may threaten reliability. Analyses conducted by PJM project that without the addition of new west-to-east transmission capacity, reliability violations will occur in the Baltimore-Washington-northern Virginia area by 2011, in northern New Jersey by 2014, and in central Pennsylvania by 2019. Similarly, NYISO reports that due to the combination of demand growth, retirement of aging generation capacity, and transmission constraints, resource adequacy violations are expected in southeastern New York State by 2011, unless corrective actions are taken.

- Even without reliability problems, transmission congestion raises consumers' electricity bills. Reliability problems, however, would introduce additional major costs. Estimates of the total cost of the August 14, 2003 blackout in the Midwest and Northeast ranged between $4 and $10 billion for the U.S. alone; substantial additional costs were incurred in Canada. Smaller scale reliability events still involve significant costs and disruptions.

- The Mid-Atlantic Critical Congestion Area is home to 55 million people (19 percent of the Nation's 2005 population) and is responsible for $2.3 trillion of gross state product (18 percent of the 2005 gross national product). Given the large number of military and other facilities in this area that are extremely important to the national defense and homeland security, as well as the vital importance of this populous area to the Nation as an economic center, any deterioration of the electric reliability or

economic health of this area would constitute a serious risk to the well-being of the Nation.

- Given the long lead-times associated with the development of new transmission capacity (or possible alternatives) and the economic and strategic importance to the Nation of this broad area, focused attention to address the area's congestion problems is needed.

**Findings and Conclusions Concerning the Draft Southwest Area National Corridor Designation**

- Since at least 2004, key transmission paths into and within southern California have been constrained causing persistent congestion that adversely affects consumers in downstream urban load centers.

- The modeling performed for the Congestion Study projected that without corrective action, the congestion in this area, with its adverse affects on consumers will continue.

- Congestion problems, when severe, may threaten reliability. In recent years, the electricity supply capability within Southern California, combined with supplies that can be imported from external sources, has been barely enough to meet peak electricity demand. In the summer of 2005, the California Independent System Operator (CAISO) declared two "Stage 2 Emergencies" in Southern California (July 21 and 22) and a transmission emergency occurred on August 25 that resulted in the curtailment of 900 megawatts (MW) of firm load. In the summer of 2006, rolling blackouts were avoided during a period of extremely hot weather only through a combination of good fortune, extraordinary efforts by the utilities, CAISO, and the Bonneville Power Administration, and timely cooperation by electricity consumers to reduce electricity demand. CAISO expects that electricity supply resources in Southern California will be very tight again in the summer of 2007.

- CAISO notes that load in Southern California has been growing at a rate of approximately 1.5 percent annually, which translates into a total of approximately 657 MW of new load that needs to be served each year. CAISO notes that this rate of load growth, combined with the threat of extreme weather conditions, such as a 1-in-10-year heat wave, could mean that by 2015, the loss of the transmission capacity in a single critical transmission path could necessitate the curtailment of approximately 1,500 MW of load. CAISO states that in the event of a double-line contingency on that path at peak load, anywhere from 500 to 1,000 MW of load would need to be curtailed.

- Particular areas in Southern California are especially vulnerable to reliability problems. CAISO notes that the San Diego area is projected to be deficient in overall generation capacity by the year 2010 due to severe import limits. CAISO also notes

looming reliability problems on the South of Lugo path, a major CAISO internal path that serves the Los Angeles Basin. Similarly, the Los Angeles Department of Water and Power (LADWP) stated in its comments to the Department that: "Zone SP26 is a large load center that is currently experiencing reliability problems because of transmission constraints. . . . Zone SP26 will likely continue its dependence on imports, so transmission improvements are needed to avoid future violations of reliability standards. . . ."

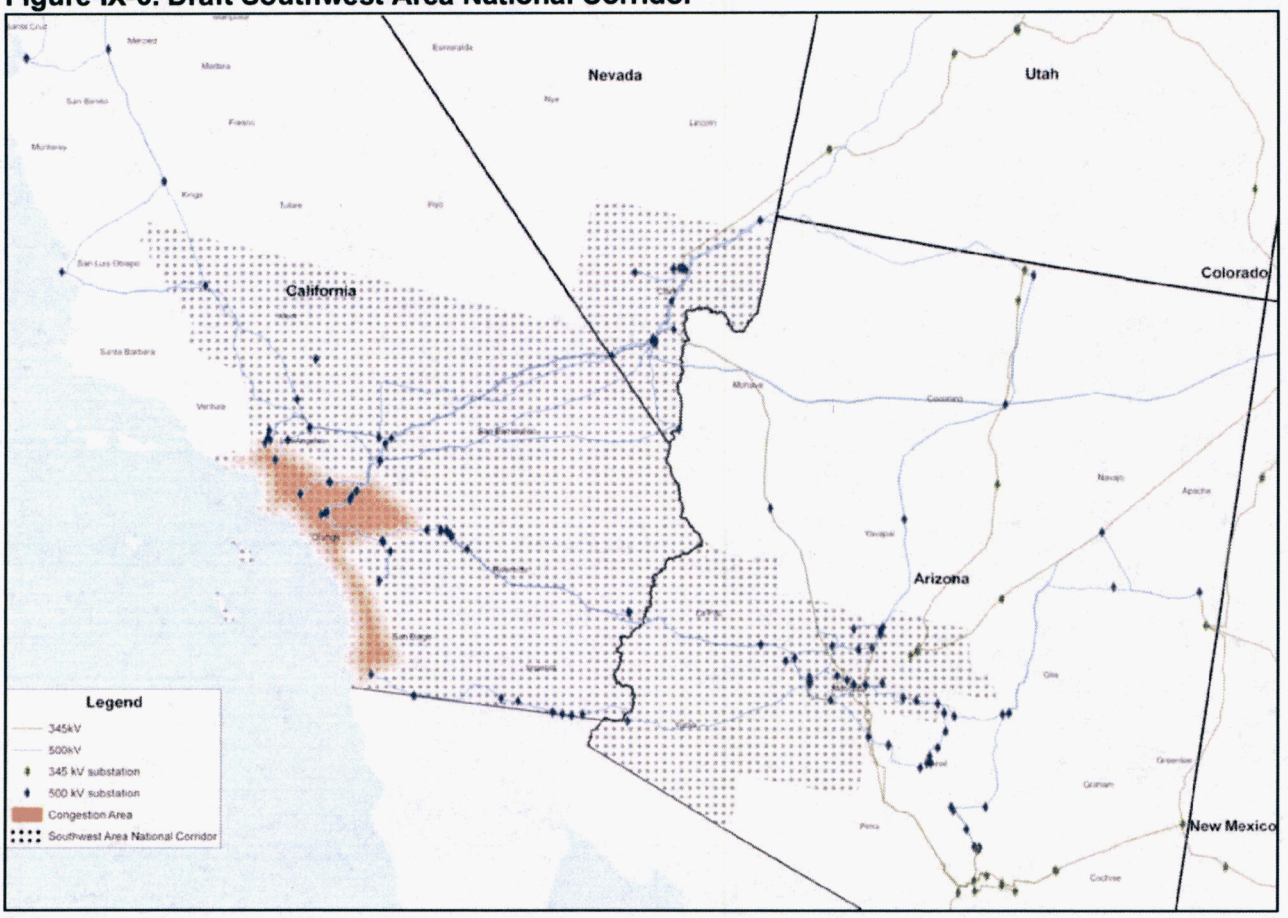
- Even without reliability problems, transmission congestion raises consumers' electricity bills. Reliability problems, however, would introduce additional major costs. For example, on Saturday, August 10, 1996, a blackout affected several western states, including much of California, for several hours. The California Energy Commission (CEC) conducted a survey to gauge the effects and implications of the blackout. The outage affected slightly less than half of California's residential electricity customers, 20 percent of the commercial customers, and 25 percent of the industrial customers. Forty-one percent of the commercial respondents and 31 percent of the industrial respondents said that the outage was "very disruptive" to their operations and reported losses in excess of $40 million.

- The Southern California Critical Congestion Area is home to 20.7 million people (7.0 percent of the Nation's 2005 population) and produces about $950 billion of gross state product (7.7 percent of the 2005 gross national product). Given the large number of military and other facilities in the Southern California Critical Congestion Area that are extremely important to the national defense and homeland security, as well as the vital importance of this populous area to the Nation as an economic center, any deterioration of the electric reliability or economic health of this area would constitute a serious risk to the well-being of the Nation.

- Given the long lead-times associated with the development of new transmission capacity (or possible alternatives) and the economic and strategic importance to the Nation of this broad area, focused attention to address the area's congestion problems is needed.

# Attachment B

**Figure IX-6. Draft Southwest Area National Corridor**




Source: U.S. Department of Energy, 2007.