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July 20, 2001

Arizona Corporation Commission
DOCKETED

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DOCKETED BY

Ms. Deborah R. Scott
Director of Utilities Division
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007

Re: In Matter of the Commission's Biennial Assessment, etc.
ACC Docket No. 00000A-01-0120
E-00000A-01-0120

Dear Ms. Scott:

This letter is to state Tucson Electric Power Company's support for, and to join in, the "Comments of Arizona Public Service Company to Staff's Proposed Changes" filed July 6, 2001, by Arizona Public Service Company in the docket referenced above.

If you have any questions, or if you desire further comment from Tucson Electric Power Company, please do not hesitate to contact me.

Sincerely,

Raymond S. Heyman
For the Firm

RSH/cim
cc: Steve Glaser
Ed Beck

Original and 10 copies filed
this 20th day of July, 2001 with:

Docket Control
Arizona Corporation Commission
1200 W. Washington
Phoenix, AZ 85007

Cathryn L McDonald

Proposed Changes* to the
Biennial Transmission Assessment Report 2000-2009
Docket No. E-00000A-01-0120
[For discussion at July 23, 2001 Open Meeting]

(*Incorporates comments docketed through July 9, 2001)

INTRODUCTION:

The Arizona Legislature has mandated that on a biennial basis the Arizona Corporation Commission must review ten year plans filed by any person contemplating construction of any transmission line within the state, and issue a written decision addressing "the adequacy of the existing and planned transmission facilities in this state to meet the present and future energy needs of this state in a reliable manner." A.R.S. § 40-360.02(E). To comply with this statutory mandate, the Arizona Corporation Commission Staff completed its first biennial assessment of Arizona's existing and planned transmission system and filed the Biennial Transmission Assessment, 2000 – 2009 ("Assessment") on March 1, 2001.

It is Staff's position that a thorough assessment of the adequacy and reliability of Arizona's transmission system requires actual technical studies. However, the Commission had neither the required data nor the resources to perform the necessary technical studies. Therefore, Staff, in formulating its findings and recommendations, relied upon its industry experience and knowledge of Arizona's transmission system to analyze the technical reports that had been published by others.

The Commission reviewed and discussed the Assessment at its March 27th Open Meeting. Based upon that review and comments from the industry and the public, the Commissioners directed Staff to schedule workshops with the interested parties for further discussion of the issues. Prior to the first workshop, parties were to file comments addressing the findings and conclusions of the Assessment. Staff convened the 1st workshop on May 10, 2001. At that workshop, the parties advocated their positions and voiced their opinions regarding the Assessment. Because a number of issues remained unresolved, a 2nd workshop was held on Friday, June 22, 2001.

Staff has prepared this document to facilitate a complete and effective discussion of the issues at the scheduled July 23rd Open Meeting before the Commissioners. Staff has incorporated the comments of the parties, organizing them to coincide with the relevant issues in the Assessment. In addition, this document reflects Staff's position on the issues, having considered the comments of the parties.

ISSUES:

ISSUE #1 - USE OF ASSESSMENT
(Executive Summary)

Arizona Public Service noted in its comments that "[t]he Assessment should clarify that it represents an opinion of Commission Staff, for use in compliance with A.R.S. § 40-360.02(E), but is not intended to set Commission policy or require any specific action by Arizona transmission providers."

After the 2nd workshop, APS filed the following additional comments:

Proposed Commission Action on the Assessment.

Although no proposed form of order was provided with the Proposed Changes, several of the changes suggest that Staff will request more action from the Commission than is either necessary or appropriate in this matter. Given the significant disagreements between Staff and stakeholders over many of the policy issues in the Assessment and the obligation that substantive requirements be developed in a rulemaking proceeding, APS does not believe that the Commission should "adopt" the Assessment as Commission policy. At most, the Commission should "accept" the Assessment and determine that it complies with A.R.S. § 40-360.02.

Additionally, Staff had proposed a clarifying paragraph stating that the Assessment was the professional opinion of Staff, and not Commission policy. (*See* Proposed Changes at p. 2.) In the Proposed Changes, however, an additional sentence was added to that paragraph: "This Transmission Assessment will not be ACC policy unless and until adopted by Commission Decision." (*Id.*) That addition arguably nullifies the concerns that APS believed Staff was trying to address. Further, it places into question the scope and extent of "ACC policy" that is intended to result from the Assessment. For example, will the Guiding Principles, which are specifically described as being only an opinion of Staff, nonetheless become "ACC policy" following a Commission decision in this docket? Accordingly, the additional language added to the insert on Page 2 of the Proposed Changes should be deleted.

Finally, the "Next Steps" included on the final page of the Proposed Changes could be construed to require transmission providers to propose additional transmission facilities without any further analysis of costs or benefits associated with such facilities. As discussed above, specific decisions regarding additional transmission facilities involve more than simply an analysis of the marginal cost of any given merchant generator. Accordingly, the third bullet of the Next Steps should be revised to request:

Technical Study Reports with Ten-Year filings identifying potential transmission enhancements that could address local constraints and their associated costs.

Once the various options and cost estimates are prepared, Staff and transmission providers can more accurately make effective and economical planning decisions.

Staff does not disagree with the APS comments, and will insert the following statement in the Executive Summary:

This Transmission Assessment represents the professional opinion of Commission Staff, does not set Commission policy, and does not recommend any specific action by Arizona transmission providers. This Transmission Assessment will not be ACC policy unless and until adopted by Commission Decision.

[Insert at page iii, at the end of paragraph 1.]

ISSUE #2 - ADEQUACY / RELIABILITY

Use of NERC or WSCC Standards to Determine Adequacy; Reliability Criteria; NERC definition of "Adequacy" and "Security" (Section 1.2)

APS expressed concerns regarding the methodology of assessing adequacy and reliability. The Company commented:

> The Assessment initially refers to the North American Electric Reliability Council's ("NERC") definition for the terms "adequacy" as well as "reliability." These terms, however, are not fully developed using applicable NERC criteria.
>
> The Assessment should use a methodology of assessing adequacy (and reliability) that is recognized in the industry. Although NERC and WSCC terminology and standards are similar, APS recommends that the Assessment adopt WSCC terminology and reliability criteria because Arizona is located within the WSCC. This would include the recent WSCC amendments adopted in December 2000 and the Reliability Criteria for Transmission System Planning, Minimum Operating Reliability Criteria and Power Supply Assessment Policy. The Assessment should evaluate the existing and planned Arizona transmission system using these criteria.
>
> The Assessment should also indicate where the existing or planned transmission system fails to meet the applicable criteria, or whether Staff believes that the WSCC criteria is inadequate, along with any supporting analysis."

In addressing the reliability criteria utilized by Staff, SRP asked:

> Are the reliability criteria being developed by NERC for a restructured electric utility industry adequate for the transmission system in Arizona, or is more required?
>
> Are additional reliability criteria, beyond those required by WSCC and unique to Arizona, compatible with regional grid approaches being recommended by FERC?

APS also noted that Staff's quotation of the National Electric Reliability Council's definition of "Adequacy" in the Assessment was inaccurate.

In its comments, Salt River Project explained that:

> SRP bases its design on prudent utility practices and on meeting applicable NERC and WSCC planning and operating criteria. The application of the N-1 criteria ensures that the demand and energy requirements of SRP's customers can be met with the expected loss of a single transmission element or generation unit. As per the NERC Criteria, this is done "taking into account scheduled and reasonably expected unscheduled outages of system elements." The objective of SRP's planning effort is to discover and address those generation and load patterns that are the most restrictive under the applied criteria. This ensures that SRP will operate its system within the established criteria at all times, assuring energy deliveries to its customers."

In response to the concerns raised regarding adequacy and reliability, Staff will insert the following statement in the Assessment:

> *Any discussion of adequacy or reliability must be put in the context that NERC and WSCC were established to provide a forum for the coordination of planning and operation of the member systems to promote reliability of the interconnected bulk power systems. (WSCC's Minimum Operating Reliability Criteria (revised August 8, 2000) pages III-6, III-7 and III-8 under 1.0 INTRODUCTION and 2.0 PHILOSOPHY OF CRITERIA). NERC and WSCC establish criteria that govern how members impact the interconnected bulk power system. Staff is participating and commenting in industry development of reliability criteria for the restructured electric industry.*
>
> *It is important to understand that NERC and WSCC are organizations that deal with interconnected systems. Neither NERC nor WSCC establish criteria for planning or operational requirements internal to members systems. In fact, NERC and WSCC criteria allow blackouts, voltage collapse, or cascading - as long as the impacts are confined to a local network or a radial system. NERC and WSCC also allow less stringent criteria from one member, as long as the other systems are permitted to have the same impact on that individual system. In addressing the individual members' systems, NERC's planning standards state that "[t]hose entities also have the responsibility to develop their own appropriate or more detailed planning and operating reliability criteria and guides that are based on the* ***Planning Standards*** *and which reflect the diversity of individual electric system characteristics, geography and demographics for their areas.*
>
> *Staff has grave concerns about blackouts, voltage collapse or cascading that is internal to Arizona systems as this could have a profound effect on customers. Therefore, Staff contends that there should be a higher standard than NERC and WSCC require for internal system planning and operations. It is Staff's position that all entities, WSCC members and nonmembers, should operate in accordance with the NERC or WSCC Reliability Criteria whichever is more specific or stringent. Since electric system reliability is so vital to Arizona, Staff contends that it is appropriate to apply the most specific and stringent criteria. (WSCC's Minimum Operating Reliability Criteria (revised August 8, 2000) page III-27.)*
>
> *Staff notes that SRP applies the N-1 criteria internal to their system, which precludes radial transmission lines. This is a higher standard than is required by either NERC or WSCC for internal system planning. Staff believes that this indicates that SRP complies with the WSCC's philosophy that states " [c]ontinuity of service to loads is the primary objective of the Council Reliability Criteria." WSCC's Minimum Operating Reliability Criteria (revised August 8, 2000) under 2.0 PHILOSOPHY OF CRITERIA.*

[Insert in Section 1.2, on page 1, at the end of paragraph 2.]

In response to the issue of NERC definitions, Staff acknowledges that it did paraphrase the definitions in an attempt to be succinct. However, to avoid any misunderstanding, Staff will insert the NERC definitions verbatim, as follows:

> *Adequacy - The ability of the electric systems to supply the aggregate electrical demand and energy requirements of their customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements.*
>
> [Insert in Section 1.2, on page 1, at the start of paragraph 3.]
>
> *Security - The ability of the electric systems to withstand sudden disturbances such as electric short circuits or unanticipated loss of system elements.*
>
> [Insert on page 2, before the start of the last paragraph of Section 1.2.]

However, Staff contends that the above definitions of "transmission adequacy" and "security" are not suited to the restructured electric industry. These definitions also do not take into consideration the environmental impact of older and more polluting generation. Furthermore, the regional and federal reliability criteria do not apply to the internal systems of utilities. In order to address these shortcomings and enable effective competition in the State of Arizona, Staff has developed the following two different standards due to the different environment of electric restructuring, for measurement of transmission adequacy and security:

There should be sufficient transmission import capacity to reliably serve all loads in a utility's service area without limiting access to more economical or less polluting remote generation. New power plants must have sufficient interconnected transmission capacity to reliably deliver its full output without use of remedial action schemes or displacing apriori generation at the same interconnection for single contingency (N-1) outages.

Staff feels that the better approach is to have standards of measuring transmission capacity instead of merely defining the terms "transmission adequacy" and "security."

> [Insert on page 2, as the last paragraphs of Section 1.2.]

Relaxing of WSCC Reliability Standards (Section 2.1, page 6, ¶ 5)

APS has commented that currently WSCC reliability standards are considered to be more stringent than NERC standards, but that there have been recent discussions as to whether the WSCC should migrate to the NERC standards.

Staff is participating and commenting in industry development of reliability criteria for the restructured electric industry, but it should be noted that present WSCC criteria state that "[a]ll entities, WSCC members and nonmembers, shall operate in accordance with the NERC or WSCC Reliability Criteria, whichever is more specific or stringent." Since electric system reliability is vital to Arizona, Staff will continue to recommend that the most specific and

stringent criteria be applied. (WSCC's Minimum Operating Reliability Criteria (revised August 8, 2000) page III-27.)

NERC definition of "Adequacy" (Section 3.2, page 31, ¶ 3)

Tucson Electric Power raised concerns about Staff's reference to the forest fire that occurred in 2000 because it appeared that Staff cited this as an indication of transmission inadequacy. TEP stated:

> As Staff stated in its report, security of a system should accommodate the loss of a single system component. The forest fire referred to by Staff was actually a situation that would be considered a double contingency that is not something that would be designed to be survived without remedial action. TEP's implementation of remedial action to deal with the fire and resulting outages on its system were determined to be in compliance with WSCC/NERC criteria in a follow up investigation by the WSCC.

After the 2nd workshop, SRP filed the following additional comments:

> **Duplicate Transmission Corridors**
>
> With respect to ACC staff proposed changes outlined at the top of page 6 (to be inserted in original report as final paragraph in section 3.2 on page 31), SRP recommends inserting the following sentence at the end of the paragraph: *"However, this concern must be balanced with the public's interest in developing multiple utility corridors."*
>
> SRP concurs that there should be judicious use of common corridors. Typically, lines serving the same source to load are not placed on the same structure. They are placed sufficiently far enough apart so as not to be subject to common mode events. When sufficient separation cannot be provided, the practice is to consider both lines out as a single event. When this occurs, the transmission owner should include this scenario in their system analysis and appropriately incorporate it in their plans.
>
> However, SRP believes that Staff must balance its desire for separate utility corridors for reliability purposes with the clear public policy of co-locating utilities to reduce their impact on neighborhoods. Throughout the legislative discussions on "Growing Smarter" and other growth management initiatives, many called for less disruptive, co-location of utility facilities, along with advance notice of the corridors' location to the local communities.

After the 2nd workshop, APS filed the following additional comments:

> **The Assessment Should Not Adopt or Discuss a Policy Limiting the Use of Utility Corridors.**
>
> Based on a single, anecdotal conclusion arising from comments made to the Assessment—and without supporting evidence or stakeholder comment—Staff's

Proposed Changes include what might be construed as a major policy shift in the use of utility corridors to site transmission lines. (Proposed Changes pp. 5-6.) Specifically, Staff proposes to add language to the Assessment expressing their concern for placing multiple transmission lines serving the same load in common corridors. Staff goes on to suggest that there must be a "balance" between the "environmentally-driven practice" of using utility corridors and system reliability. (*Id.* at p. 6.)

On the one hand, Staff advocates siting and constructing more transmission lines in the Assessment t. On the other hand, they now appear to propose language that may make it more difficult to site such lines. Indeed, such a position on utility corridors would increase the environmental impacts of the transmission lines in derogation of the Commission's responsibilities in A.R.S. § 40-360.07. Further, the discussion leading up to this position does not indicate that Staff has considered any material factors regarding common corridors. For example, there is no discussion about transmission tower design and spacing, which prevent the failure of one transmission line from impacting a parallel transmission line. There is no probabilistic assessment of the likelihood of an event that could cause the failure of more than one transmission line. In fact, in many circumstances the loss of even two transmission lines serving the same load would not result in a direct impact to that load. And there is no assessment of how quickly a failure could be remedied by constructing a temporary "shoefly" around the failed transmission structures. Without such a detailed analysis, it is impossible to reject the concept of utility corridors and justify the use of new transmission routes with additional environmental impacts.

Ultimately, this is not an issue that needs to be addressed at all in the Assessment. Staff intervenes in every transmission line siting case before the Arizona Power Plant and Transmission Line Siting Committee. Staff can raise any concerns it may have on specific transmission line routing before the Siting Committee (and subsequently the Commission) and the merits can be addressed on a case-by-case basis. Accordingly, APS recommends deleting the last paragraph proposed for insertion on pp. 5-6 of the Proposed Changes.

To address the above stated concerns, Staff will insert the following statement:

TEP complied with WSCC criteria. However, because the WSCC criteria only deals with interconnected systems, it does not address internal loss of load. Nonetheless, ***this outage was contrary to the basic philosophy and primary objective of WSCC, which states, "[c] ontinuity of service to loads is the primary objective of the Council Reliability Criteria."*** *(Page III-6, WSCC's Minimum Operating Reliability Criteria (revised August 8, 2000).*

In addition, WSCC's Minimum Operating Reliability Criteria (revised August 8, 2000) states, "[a] single contingency means the loss of a single system element, however, the outage of multiple system elements should be treated as a single contingency if caused by a single event of sufficiently high likelihood". Staff has concerns with any utility placing multiple transmission lines, serving the same load, in a common corridor that could be interrupted by a single event. However, this concern must be balanced with the public's interest in developing multiple utility corridors. There needs to be a balance between the

environmentally driven practice of siting new lines adjacent to existing corridors and the increased system reliability by opening up new corridors.

[To be inserted as the final paragraph in Section 3.2 on page 31.]

ISSUE #3 - GUIDING PRINCIPLES

Guiding Principles (Section 2.1, page 6, ¶ 3 - located in Appendix A)

Both Arizona Electric Power Cooperative and APS opined that the Guiding Principles that Staff applies in line siting cases should be subject to industry and public comment. APS stated:

> The Assessment's analysis should be based on generally accepted baselines rather than on informal guidelines or policies that have not been subject to rulemaking or are subject to significant disagreement among stakeholders. This will help avoid the risk of conflicting standards and requirements between the entities responsible for transmission planning and reliability analysis. Further, if "accountability" is to be imposed on transmission providers, any assessment of adequacy must involve measurable and objective metrics, and not merely subjective assessments. If Staff desires to codify its informal policies and guidelines, it could recommend in the Assessment that an appropriate rulemaking be initiated.

Guiding Principles (Section 2.1, page 6, ¶ 3- Appendix A) - Two-line Requirement

APS also expressed concerns about the two-line requirement in the Guiding Principles:

> The number of transmission lines emanating from a power plant has no necessary connection to the ability to provide reliable service to native load customers. Thus, this Staff guideline should not be addressed in the Assessment at all, because A.R.S. § 40-360.02(E), which directs the assessment to focus on the "energy needs" (i.e., load) of "this State."
>
> Additionally, the Assessment's position on a "blanket" requirement for two transmission lines from every power plant, and blanket requirement of N-1 reliability without remedial action schemes, is unreasonable and not required by current industry guidelines or standards. A two-line requirement has been vigorously (and successfully) contested by several merchant generators. The Commission itself has rejected the Assessment's position when system topology, economics and environmental impacts warranted construction of only a single transmission line.
>
> Table 2 of the Assessment, a listing of power plants with the number of transmission lines, does not support the two-line requirement because it does not consider the circumstances underlying each power plant's transmission

configuration. For example, some of the plants on the list agreed on two transmission lines to settle with Staff prior to a CEC hearing, not because of an industry standard. Also, the generating capacity of many of the plants is of such magnitude that two transmission lines would be necessary, not for reliability purposes, but simply to carry the output of the plant. For example, Panda's Gila River project is a 2,080 MW plant. Two 500 kV transmission lines are required to support this much capacity. Further, some of the older plants may simply reflect then-current system issues or the phenomenon of multiple, joint-ownership interests in power plants which often resulted in separate transmission paths from the plant to various load centers. What Table 2 does show, however, is that the number of transmission lines and transformer ties from any specific power plant is a very case-specific determination.

Although this may appear to be simply a generator issue, APS is concerned about any Commission policy that restricts or inhibits power plant development in Arizona and increases APS' costs to procure generation for its customers. The determination of how many transmission lines should emanate from any specific power plant is and should be a case-specific inquiry. The Assessment should not implicitly create policy for such a requirement, particularly given the lack of evidence for the requirement and the amount of stakeholder disagreement with the policy.

After the 2nd workshop, APS filed the following additional comments:

The "Two Line" Rule and Staff's Guiding Principles.

Despite overwhelming and persuasive comments from a variety of parties criticizing the "two line" requirement for the interconnection of new generators to the transmission grid, the Proposed Changes still do not appear to adequately address this issue. Rather than recognizing that the Guiding Principles are not appropriate for inclusion in the Assessment, the Proposed Changes merely include a statement that Staff was not recommending that the Guiding Principles become "Commission Rules. " (Proposed Changes at p. 7.) At the same time, Staff is apparently asking the Commission to adopt the Assessment as "policy." (*Id.* at 2.) This could result in some parties construing the "two line" requirement to be more than just the "professional opinion of Commission Staff." (*Id.* at 7.)

Accordingly, the Guiding Principles should be omitted entirely from the final Assessment. Alternatively, the insert to Section 1.3 of the Assessment should be clarified to read:

> The Guiding Principles represent the professional opinion of Commission Staff. As such, the Guiding Principles are not intended to be Commission Rules or policy. However, Staff or the Commission reserves the right to open a rulemaking docket in the future to codify the Guiding Principles.

Like the utility corridor issue discussed above, the "two line" requirement should be addressed on a case-by-case basis before the Siting Committee and should not become a Staff or Commission "policy."

PG&E National Energy Group also responded "[r]equiring all power plants to connect to the system with multiple transmission line is not 'Arizona's best engineering practice.'"

In response to the comments addressing the Guiding Principles, Staff will insert the following statement:

> *The Guiding Principles represent the professional opinion of Commission Staff. At this time, Staff is not recommending that the Guiding Principles become Commission Rules. Clearly it is within the Commission's jurisdiction to direct a Rulemaking Docket to be opened so that the Guiding Principles could be codified.*
>
> [Insert in Section 1.3, on page 2, before the last sentence of paragraph 1.]

ISSUE #4 - RESTORATION VERSUS CONTINUITY OF SERVICE
(Section 2.2)

Both APS and AEPCO raised concerns about this section of the Assessment. APS stated:

> APS provides service to Bisbee and Douglas, as is noted in the Assessment. APS is implementing the planned additions identified in the Southwest Arizona Transmission Study to further improve its ability to reliably serve these customers. But, in reaching its conclusion, the Assessment fails to consider prudent remedial schemes that avoid overbuilding transmission systems. One can always spend more money and add protections to address every conceivable risk. Additional reliability always has some value, but society has many other interests and with limited resources available, priorities must be established. Thus, the cost to provide an "perfect" level of reliable service may at times exceed the social utility of such service.

Section 2.2, page 9, ¶ 4 - APS Service to Douglas and Bisbee.

APS also requested that Staff add to the first sentence of the last paragraph the words in italics: "APS serves the communities of Douglas and Bisbee via a 115 kV line from Adams Substation east of Benson and use of the 16 MW Fairview local generator."

APS also addressed Staff's position regarding the acceptability of radial facilities:

> Similarly, the Assessment appears to conclude that radial service is per se inadequate. In some circumstances, radial service is the most cost-effective service available to certain loads. The Assessment does not provide an analysis as to why radial facilities fail to comply with accepted reliability and adequacy standards or why such facilities, in all cases, must be considered inadequate.

There was a request for clarification from AEPCO:

> "... the communities of Sierra Vista, Bisbee, Douglas, and Ft. Huachuca are each served by radial transmission lines rather than lines interconnected and operated

> as a network. Because several utilities are mentioned in that section, it is unclear whether that statement is intended to apply to AEPCO, ..."

AEPCO also requested a correction in the text:

> "... reference is made to an outage which occurred on June 22, 1999. ... the Assessment states that 'This is similar to the circumstances persisting in CUC's service to Santa Cruz County.' This is inaccurate and it is important that the Commission understand the circumstances surrounding the June 22, 1999 outage."

In response the comments on Restoration and Continuity of Service, Staff will insert the following statement:

> *Staff has not proposed a "perfect" level of reliable service, but contends continuity of service should be the standard for level of service provided, and reflects the WSCC's Minimum Operating Reliability Criteria, PHILOSOPHY OF CRITERIA, which states:*
>
> > ***Continuity of service to loads is the primary objective of the Council Reliability Criteria. Preservation of interconnected operation during disturbances is secondary to the primary requirement of preservation of service to loads. Although 100 percent reliability of power supply is impossible, each system will, insofar as practical, protect its customers against loss of service.*** *[Page III- 6; section 2.0; revised August 8, 2000]*
>
> *Staff agrees that in some circumstances, radial service is the most cost-effective service available to certain loads, but continues to assert that continuity of service should be the level of service to strive for.*
>
> [Insert in Section 2.2, page 9.]

To clarify, the statement regarding the communities of Sierra Vista, Bisbee, Douglas and Ft. Huachuca being serviced by radial transmission lines was intended to refer to AEPCO.

Staff will delete the statement regarding Citizens Utilities Company's service to Santa Cruz County from the report, because the issue is lack of continuity of service and not about comparing outages of different systems.

Section 2.2, page 10, ¶ 6 - Southeastern Arizona.

The suggestion that service via radial lines "means the transmission system is not adequate and secure" is not supported by commonly accepted reliability standards. Radial lines are recognized by WSCC and use of radial lines does not imply non-compliance with WSCC adequacy or security standards.

The statement "with minor system improvements, such as switch and circuit breaker upgrades" as an alternative for supplying customers in Southeastern Arizona is incorrect. Studies have

shown that when the Adams 115 kV line is in service and McNeal is closed, there will be unacceptable AEPCO system loadings.

ISSUE # 5 - LOCAL GENERATION

Several parties commented on Staff's treatment of local generation in the Assessment.

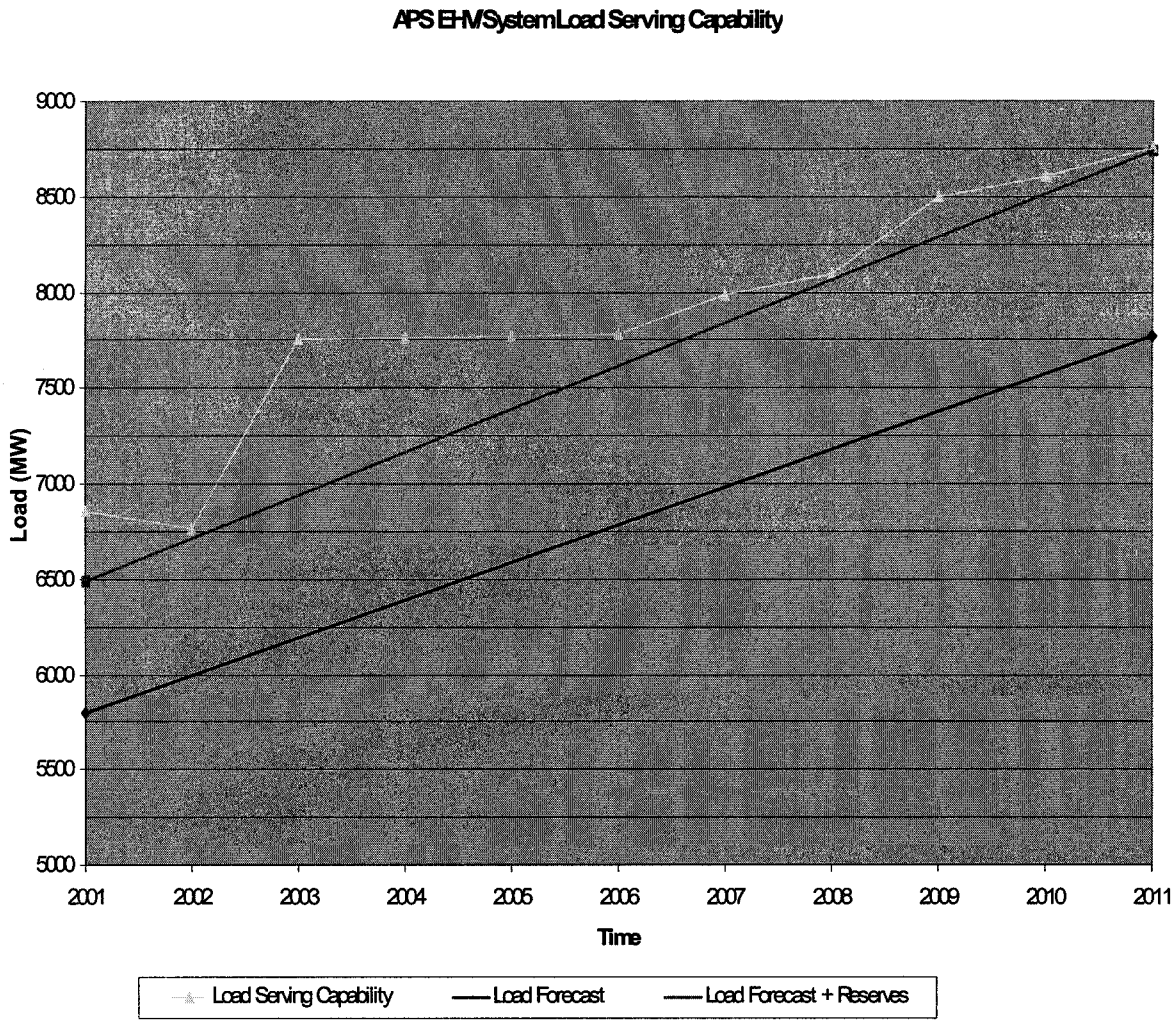
APS stated:

> Generation cannot be divorced from transmission adequacy, as both high-voltage transmission and generation together comprise the bulk power system. It is standard industry practice to consider both transmission and local generation when assessing system load serving adequacy. The Assessment, however, states that Commission rules require "that each utility provide adequate transmission import capability to serve its local load requirements with sufficient flexibility *to not rely solely upon local generation*." (Emphasis added).
>
> The pertinent portion of Rule R14-2-1609(B) states:
>
>> Utility Distribution Companies shall retain the obligation to assure that adequate transmission import capacity is available to meet the load requirements of all distribution customers within their service areas.
>
> There is no reference in this rule to any restrictions on the role of local generation in meeting a Utility Distribution Company's obligations to customers, nor has the Commission previously articulated this interpretation. To the contrary, Decision No. 61969, adopting the rule, states:
>
>> Because the ability of an UDC to meet this obligation [to deliver reliable electric service] depends upon the adequacy of its distribution system, <u>local generation</u> and interconnections with the bulk transmission system, this Section's reference to transmission import capability does not exceed the Commission's jurisdiction.
>
> Decision No. 61969 (Sep. 29, 1999) (emphasis added); *See also* Staff's Responsive Comments Regarding Proposed Rules, Docket No. RE-00000C-94-0165 (June 4, 1999) at 23.
>
> Staff's current characterization of Rule R14-2-1609 as excluding local generation is inconsistent with the prior position of both Staff and the Commission. Such generation can displace transmission in a more socially acceptable and cost-effective manner in many cases. Accordingly, given the load and resource analysis presented above, there is no basis to conclude that APS' service to Yuma and Phoenix is inadequate solely due to the reliance by APS on local generation as well as transmission import capability.

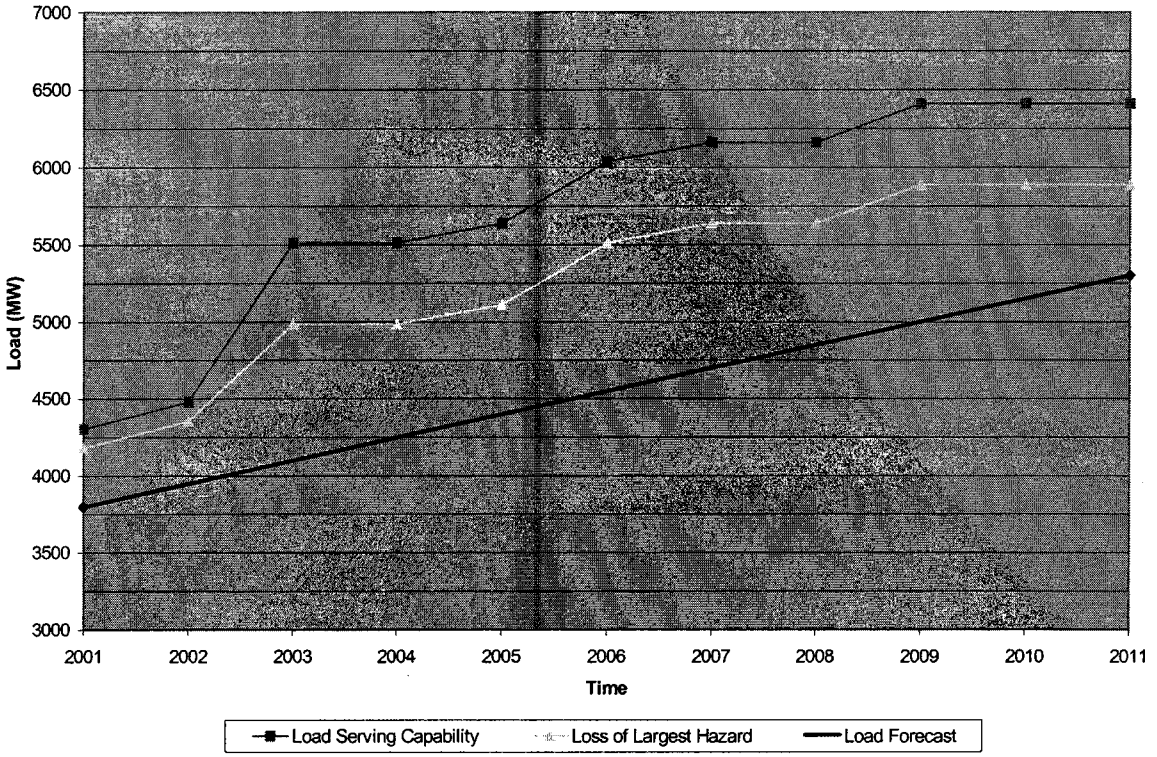
APS also addressed the adequacy of it transmission system:

Based on Staff's discussions with APS, it is not clear whether the Assessment was intended to make specific findings regarding the adequacy of APS' existing and planned transmission system. APS' transmission system today and as planned for the future, meets all applicable WSCC criteria. The Assessment must identify any specific violations of applicable WSCC criteria before making any general conclusions regarding APS' transmission adequacy.

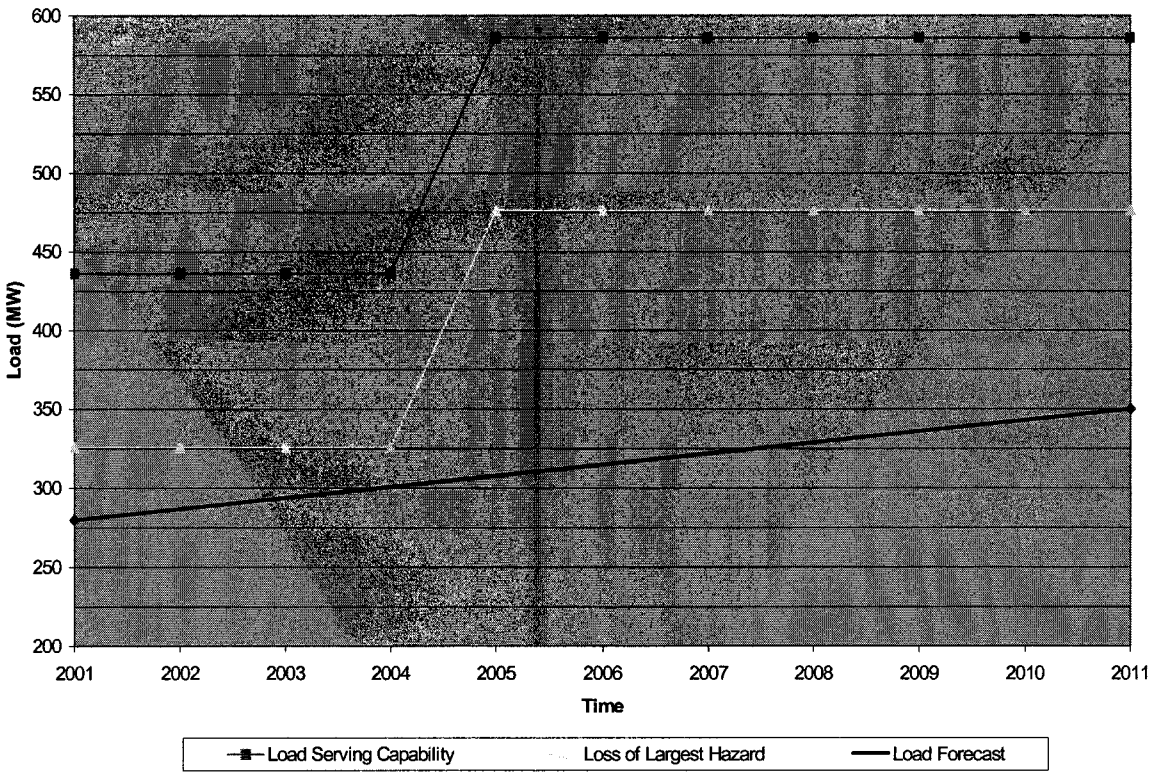
The adequacy of APS' existing and planned transmission system is provided for in APS 10-year Plan, and is illustrated by the following load and resource graphs for APS' bulk power system, the Phoenix metropolitan area, the Yuma area, and the Douglas-Bisbee area.

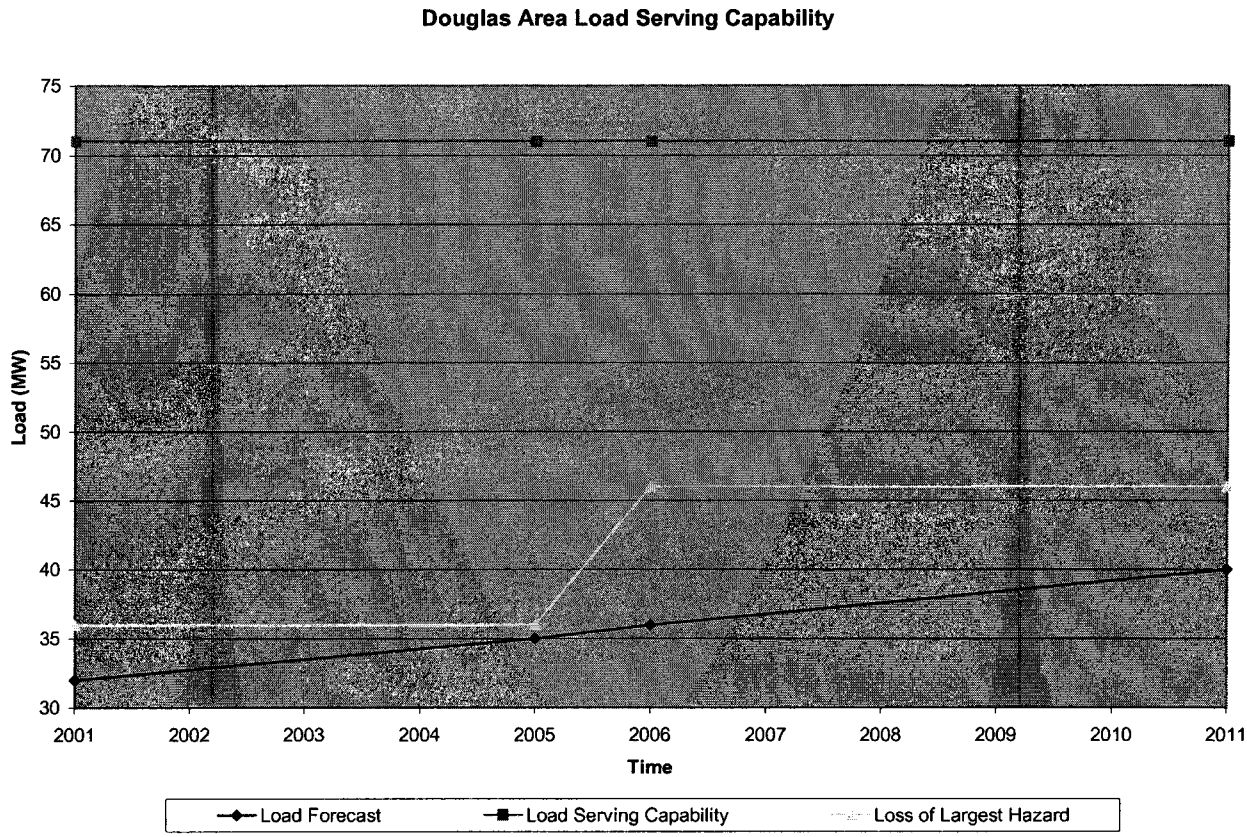


Phoenix (APS) Area Load Serving Capability



Yuma Area Load Serving Capability





These load and resources graphs illustrate that, even accounting for N-1 contingencies and system reserve requirements, APS has more than adequate transmission resources to meet its reliability obligations. The changes in load service capability shown on the graphs are tied to projects included in APS' 10-Year Plan. APS does agree that without the system improvements proposed in its 10-Year Plan, the transmission system will reach its operational limits. However, these graphs show that APS' transmission plans adequately address projected load growth in APS' service area.

Accordingly, the Assessment should conclude that APS' existing and planned transmission system is adequate, and that the additions set forth in APS' 10-Year Plan are timely, based on generally-accepted reliability criteria.

After the 2nd workshop, APS filed the following additional comments:

The Assessment's Proposed Standard for Determining Transmission Import Capacity Must Be Modified.

In response to comments on its initial Assessment, Staff has proposed a new standard for measuring transmission adequacy. The new standard provides that:

There should be sufficient transmission import capacity to reliably serve all loads in a utility's service area without limiting access to more economical or less polluting remote generation.

(Proposed Changes at p. 4.) At the workshop, APS noted that the term "more economical" in the new standard could not refer simply to the marginal cost of any given remote power plant, but must consider the cost to construct additional transmission lines to access local loads. Of course, any standard must also consider additional issues such as transmission line losses and costs, ancillary services, and reliability. Staff agreed that the cost of transmission lines should be considered, but indicated that its proposed standard was intended to address concerns over the use of "must run" generation in the Valley. (6/22/01 Tr. at pp. 24-26, 28.)

A superficial consideration of "must-run" requirements for local generation, however, does not provide an acceptable standard for determining transmission adequacy. Nor has staff demonstrated that a "new" standard that could result in significant overbuilding of transmission lines is warranted. For example, APS' "must-run" requirements for the year 2000 in the Valley are provided below:

Must Run Requirements (MW)	Hours/Year
500-880	178
250-500	320
1-250	458

This table shows that APS' Valley generation was "must run" for 956 hours in the year 2000, with peak "must run" capacity of 880 MW. However, the table also shows that almost 50 percent of APS' "must run" hours for the Valley was for less than 250 MW. Moreover, out of all 956 hours of "must run," local generation was out of the market for only 6 hours. APS (and possibly the Federal Energy Regulatory Commission) would not consider it prudent to expend tens or hundreds of millions of dollars —and impose other environmental and social impacts— constructing new transmission lines to resolve a 6 hour per year problem.

Additionally, the reference in the proposed new standard to using "less polluting" remote generation is, put simply, unmanageable. For example, would this standard suggest a need to balance the environmental impacts of a local state-of-the-art natural gas plant and a more remote coal facility when making economic dispatch decisions? What if a facility is "more" polluting but located in an attainment area, as opposed to a "less" polluting source located in a non-attainment area? Moreover, when APS makes wholesale power purchases it does not (and generally cannot) know whether the generator providing such energy is more or less polluting than any other merchant generator, or any generator in APS' economic dispatch schedule. The federal Clean Air Act establishes standards to

protect human health, and these standards apply to generators. There is no justification to intercede in non-jurisdictional emissions issues by adopting an overly vague standard.

Finally, from a legal standpoint, the new "standard" proposed by Staff cannot be adopted as policy by the Commission without complying with the rulemaking requirements in the Arizona Administrative Procedure Act. *See, e.g., Appalachian Power Co. v. EPA*, 208 F.3d 1015 (D.C. Cir. 2000) (EPA "guidelines" required rulemaking under analogous federal Administrative Procedure Act). Moreover, the potential for the new standard to require the construction of non-load justified transmission to merchant generators treads dangerously close to FERC's exclusive jurisdiction over bulk power facilities. Transmission pricing, cost recovery, interconnection requirements, and ratemaking are exclusively controlled by FERC, and federal law preempts inconsistent state laws and regulations. *See, e.g.,* 16 U.S.C. § 821(b)(1) (2001); *California Public Utilities Commission v. FERC*, 900 F.2d 269, 274 (D.C. Cir. 1990) (citing cases and noting that "cases are legion affirming the exclusive character of FERC jurisdiction where it applies. . .").

To resolve these various issues, APS recommends that the standard be modified to more accurately address the issues raised in this proceeding and to avoid intruding on FERC's exclusive jurisdiction. A better and more reasonable standard for purposes of the Assessment is:

> There should be sufficient transmission import capability to economically and reliably serve retail load requirements in utility service areas.

Alternatively, the Assessment should clarify that the proposed "standard" for transmission adequacy is not a rule or a policy, but merely a Staff recommendation, which does not require any specific action now or in the future on the part of transmission owners. Thus, clarifying language should be appended to the proposed standard stating:

> This standard is a Staff guideline and is not intended to be a Commission rule or policy, or itself require specific action by any transmission provider or power plant operator.

SRP raised a number of questions regarding local generation, distributed generation, transmission constraints and congestion management:

> If incorporating local generation is interpreted to be inadequate, should there be a plan to build a transmission system that solely relies on remote generation? How many transmission lines will be appropriate to create a transmission system to import all the energy into a geographic load zone such as Phoenix and what would be the basis for resource assumptions?

How will the benefits of new technology that helps in providing self sufficiency, such as locally provided distributed generation or other renewable portfolio options, be obtained if they are not incorporated in the transmission plans?

Should additional lines be built so that congestion and constraints never exist on the transmission system? Should more lines be built when generation plants change the market to which they want their energy delivered?

Is the approach proposed by DSTAR (Desert STAR) in dealing with the market issues of congestion management and local generation a reasonable way to address these issues?

After the 2nd workshop, APS filed the following additional comments:

Adequacy and Reliability

With respect to ACC staff's proposed changes outlined on pages 4 and 5 (to be inserted in original report as the last paragraphs of section 1.2):

SRP recommends deleting the words "*without limiting access to more economical or less polluting remote generation*" from the first sentence of the 2nd paragraph to be inserted: "*There should be sufficient transmission import capacity to reliably serve all loads in a utility's service area without limiting access to more economical or less polluting remote generation.*" In a deregulated and restructured electric industry environment, generation is market-based, not cost-based. As discussed at the workshop, SRP fails to understand how the various combinations of air emissions, water usage, noise and visual obstructions are to be evaluated when scheduling and dispatching energy from different generation plants. SRP is not aware of any superior transmission rights associated with specific types of generation.

SRP recommends that if ACC staff desires to have transmission capacity beyond the NERC and WSCC minimum requirements, staff should explore how to define *transmission capacity* along with the desirable level of capacity.

Tucson Electric took exception to the Staff's comments regarding their system:

ACC staff takes the position that TEP's proposed transmission additions are not scheduled to be in-service in a timely manner because TEP is "*continuing its practice of depending upon local generation to resolve its deficiency in transmission load serving capability during peak demand periods*". Staff goes on to support their finding by referencing an emergency blackout experienced by TEP on June 12, 2000 when a forest fire in New Mexico disrupted service via TEP's 345 kV lines into Vail.

TEP takes exception to the position of Staff that TEP's transmission additions are not timely. TEP has undertaken the construction of peaking resources as part of its integrated resource plan in order to meet its obligation to serve load in the most

economic fashion. Due to voltage constraint issues on TEP's system local generation has been the more effective solution up to and including the current turbine being built at TEP's Demoss Petrie site.

Transmission Constraints.

APS strongly disagrees with Staff's apparent assertion that any transmission constraints are "also viewed as inadequate". There is no citation to authority for this proposition, and APS does not believe that the NERC Planning Manual supports this characterization. Transmission constraints are a factor in maintaining overall system reliability, but attempting to relieve all transmission constraints by overbuilding new transmission would result in a fundamental misallocation of resources.

In response to the comments and concerns raised by the parties, Staff will insert the following statement:

> *Staff position is that there should be sufficient transmission import capacity to reliably serve all loads in a utility's service area without limiting access to more economical or less polluting remote generation. Staff is not suggesting that local generation or distributed generation should be excluded from a utility's resource mix. This is evidenced by the fact that Staff has supported local generation in the siting hearings for the Kyrene and Santan plants.* ***Staff did not intervene in the West Phoenix siting hearing, but staff supports the project.***
>
> [Insert in Section 1.3, on page 2, before the last sentence of paragraph 1.]

ISSUE #6 - PLANNED TRANSMISSION

APS expressed its concerns about addressing the adequacy of transmission for merchant generators in the Assessment:

> Like the two-line requirement, the adequacy of transmission export capacity for merchant generators is outside the scope of A.R.S. § 40-360.02(E), which directs the assessment to focus on the adequacy of transmission to serve Arizona native load. Thus, this section should be omitted from the final Assessment.
>
> With the above caveat, the Assessment does correctly note that if all proposed new generation is constructed at Palo Verde, the existing transmission system would not be able to accommodate the full output of <u>every</u> plant <u>all</u> of the time. But the Assessment's conclusion that a new power plant should not be allowed to interconnect until there is "evidence demonstrating the transmission system can accommodate it with all other previously interconnected plants operational" is unwise policy for several reasons.
>
> First, just because a power plant has obtained a CEC does not mean that the plant—or all the units—will be constructed. Some of the proposed power plants

in Arizona may never be constructed; some will likely construct only one (or perhaps two) of several approved units.

Second, not all power plants will operate 100 percent of the time (at a 100 percent capacity factor). Some plants will inevitably be down for maintenance, some will be needed for spinning reserve, and some may be off-line for other reasons. The Assessment's requirement that transmission should be built to accommodate every power plant all of the time simply ignores reality.

Third, FERC Order No. 888 addresses additions to the bulk transmission system caused by the interconnection of new generation. FERC has been very clear that new merchant plants can request interconnection under Order No. 888 without <u>any</u> request for transmission service. *See Re Tennessee Power Co.*, 90 FERC ¶61,238 (2000). While the Commission is obviously involved in the siting of any new transmission lines required for a merchant plant, the Commission could not order a generator to pay for bulk transmission system additions, as is perhaps suggested in the Assessment. This would directly contradict the cost-recovery provisions of Order No. 888. Also, if multiple generators are competing for economically scarce transmission resources, competition will simply result in the most efficient generator getting to the market.

Similarly, the Assessment's suggestion that generating plant owners must obtain their own firm transmission rights or that there be existing uncommitted, i.e., excess, transmission capacity sufficient to assure that their generation can get to market ignores the fact that many of the potential purchasers of this generation already have firm transmission rights and that existing transmission rights presently committed to other markets can be reallocated if the economics of the new generators warrant this.

The Commission should not address this issue by requiring Arizona consumers to pay for overbuilding transmission to allow every generator to access any market at any time. In fact, this is the exact point raised by the Commission in its comments to FERC in the "Removing Obstacles" proceeding, Docket No. EL01-047-000. Neither should it arbitrarily turn away new power projects, because that could have the same long-term result as in California.

The scope of review of the transmission adequacy reports required by Staff's Guiding Principles as conditions in recent power plant CECs should also not be conducted in a manner that delays or deters power plants from interconnecting to the grid. Requiring excess transmission to be in place before generation is even on-line exceeds the Commission's jurisdiction and is simply impractical given the realities of merchant power plant operations. Further, such a requirement would impose significant, unnecessary economic costs and cause environmental impacts contrary to the Commission's statutory balancing obligations under A.R.S. § 40-360.07.

Panda Gila River L.P. also responded "Panda, however, believes that further consideration need be given to several of the issues addressed in the Assessment such as the responsibility for planning and the adequacy of the transmission infrastructure."

After the 2nd workshop, SRP filed the following additional comments:

> **Analysis of Cost and Responsibility for Construction**
>
> In its first set of comments to the Staff report, SRP raised a number of policy questions that it believed needed to be addressed prior to the completion of the report. The primary policy question remains -- should transmission owners be responsible for expanding the system to meet the needs of their customers and/or should they expand the system to meet the needs of merchant generation facilities (before those facilities are completed or even fully permitted)?
>
> SRP is concerned that this fundamental policy question was not addressed during the workshop process. In fact, participants were requested not to address cost or construction responsibility in their comments or recommendations. Consequently, these issues still have not been resolved even though it was indicated early on that these issues would be addressed at a later workshop. The resolution of these core policy issues is essential before finalizing this report.
>
> **Conclusion**
>
> SRP still believes that its transmission plan, upon execution, will be timely and adequate. SRP is committed to coordinated regional transmission planning and supports options that minimize the total amount of transmission while maximizing regional benefits. SRP will participate, in conjunction with other interested parties, in developing transmission alternatives that meet these objectives. At SRP, we will continue to make the transmission additions necessary to provide an adequate supply of low cost, reliable power to our customers.

Staff does not believe that requiring generators to demonstrate, prior to receiving siting approval, the existence of available transmission capacity to reliably deliver their power to market without adverse effects to the state's transmission grid in any way exceeds the Commission's jurisdiction. Nor does Staff believe that requiring such a demonstration is a requirement that "excess transmission" be put in place. On the contrary, Staff believes that requiring generation siting applicants to demonstrate the existence of available transmission capacity to reliably deliver their power to market without adverse effects to the state's transmission grid falls squarely within the Commission's statutory balancing obligations under A.R.S. § 40-360.07.

Staff does not advocate "requiring Arizona consumers to pay for overbuilding transmission to allow every generator to access any market at any time." The Commission stated in its comments to FERC in the "Removing Obstacles" proceeding, Docket No. EL01-047-000 that "there needs to be a distinction between transmission enhancements needed for the purpose of serving local

load or giving local markets access to generation, and transmission enhancements needed to facilitate interstate commerce." Staff fully supports that position.

[Insert in Section 3.2, on page 31, after the last paragraph of the section.]

ISSUE #7 - MISCELLANEOUS ISSUES:

The following are issues that were raised by the parties at the workshop or in comments.

- **ACC's LEVEL OF OVERSIGHT AND ANALYSIS OF TRANSMISSION SYSTEM** ***(Section 4.4, p. 41 ¶ 1)***

A question was raised whether the Commission had determined the level of personnel staffing and funding that would be required to meet the Staff's proposal to provide more oversight and analysis of the transmission system.

The Commission has not specifically addressed this issue to date. Some possible options for future assessments include:

- Have existing Staff continue to do an independent assessment using industry-provided information.
- Hire a new staff member to perform the independent assessment. Below are the estimated costs to perform the assessment.

Description of Costs	1st year	Ongoing
Engineer/Planner (with loadings)	**80,000**	**80,000**
Laptop Computer and Software	**39,000**	**-**
Travel for industry meetings	**9,000**	**9,000**
Training/subscriptions, etc.	**1,000**	**1,000**
	129,000	**90,000**

- Hire a consultant. Staff has been quoted estimates that start at $200,000.
- Staff obtain information from the public and industry and conducts workshops, as appropriate.

- **CONSIDERATION of NON-RELIABLITY ISSUES** ***(No reference in report)***

APS addressed a number of issues related to transmission systems:

> A "perfectly" reliable transmission system cannot be implemented. Incremental reliability improvements may be obtained on any transmission system, but often at a cost that exceeds the social benefit of improved reliability.
>
> Accordingly, the economics of transmission additions must be carefully studied. It is not prudent industry practice to construct transmission lines that ultimately serve no purpose, or are needed for only an extremely limited period and could be avoided entirely by transmission displacing facilities or procedures. Transmission lines that are not truly needed or that are constructed too early impose unnecessary environmental impacts. The Commission's obligations under the Siting Act specifically direct a balancing of these types of impacts—A.R.S. § 40-

360.07(B) provides that the Commission shall 'balance, in the broad public interest, the need for an adequate, economical and reliable supply of electric power with the desire to *minimize* the effect thereof on the environment and ecology of the state.' (Emphasis added.)

Likewise, the timing of transmission additions, often involving a multi-year federal process, State Land Department involvement, tribal entities, lengthy route surveys and selection and long construction lead times, must be carefully planned and executed. Constructing excess transmission too early, however, results in unnecessary costs for the utility (and ultimately its customers) and for society (who must accept a transmission line before it is necessary). Constructing lines too early may also cause a utility to miss the opportunity for system upgrades, local generation, or other transmission displacing projects that could develop.

Ultimately, some theoretically beneficial system improvements may prove to be impracticable or untimely due to the inability to site or construct the facilities. The Assessment candidly acknowledges that it did not consider cost or other impacts in its transmission adequacy analysis. The Assessment, however, should address (even if at a very general level) economic, environmental, social, and timing issues concurrently with its adequacy analysis, as such elements are a necessary and unavoidable component of transmission system planning.

Staff acknowledges that there may be additional issues that could be examined in assessing the transmission system in Arizona. However, the lack of information and resources has limited the analysis that Staff is able to provide.

[Insert in Section 4.4, on page 42, after the last paragraph of the section.]

- **NATIONAL MONUMENT DESIGNATIONS**
  (No reference in report)

APS has raised concerns about the impact of national monument designations on Arizona's transmission needs:

As one of President Clinton's final acts, several National Monuments were designated in Arizona, including the Sonoran Desert National Monument and the Ironwood National Monument. Under federal law, the agency responsible for the National Monuments (primarily the Bureau of Land Management ("BLM") will develop a Management Plan for each National Monument. The preparation of a Management Plan will require compliance with the National Environmental Policy Act, and will thus require an Environmental Impact Statement or Environmental Assessment.

The BLM has indicated in public correspondence that the National Monument designations should not eliminate the continued use of designated utility corridors through these areas. However, the several year process required to prepare Monument Management Plans may effectively delay any projects seeking to use such corridors. Generally, the BLM will not approve right of way permits until a

Management Plan is in place. Both the Palo Verde to Saguaro project (Case No. 24) and the Santa Rosa to Gila Bend project (Case No. 61) may thus be affected by the National Monument designations. However, APS has implemented minor design changes to the Gila River Transmission Project (Case No. 102) to entirely avoid the Sonoran Desert National Monument with only a minor modification to its CEC.

APS intends to continue to work closely with the BLM and other affected federal agencies to address and resolve any issues related to the National Monuments' impact on transmission planning and the continued use of recognized utility corridors. Nonetheless, the Commission should monitor this issue.

Staff has had discussions with Department of Energy, Bureau of Land Management and the Forest Service in an attempt to facilitate the complex and time-consuming Federal processes.

[Insert in Section 3.4, on page 37, before the last sentence in paragraph 2.]

- **CURTAILMENT PROCEDURES FOR NEW GENERATORS.**
  Section 2.4, page 16, ¶ 1

APS found that the statement that "a curtailment procedure must be developed prior to the interconnection of new generation" was misleading. APS contends that an operating procedure to ensure system reliability will be developed and pointed out that operating procedures have been developed for many power plants prior to the plant's going into commercial operations.

Staff understands that operating procedures are developed for standard operations. However, the curtailment plan Staff envisions is more than just standard operations. It is intended to address situations where there is more generation available than corresponding transmission export capacity.

CORRECTIONS, UPDATES & CLARIFICATIONS:

Since the issuance of the original Assessment in early March, there have been a number of factual updates that have been brought to Staff's attention. The parties have also requested clarification on some issues, and pointed out where corrections needed to be made in the Assessment. This section covers those types of issues.

Merchant Power Plants
(Section 2.1, page 6)

The Assessment had stated that "Currently, no merchant plants are operating in Arizona." APS pointed out that there is a merchant power plant in Yuma, Arizona that is currently being operated by Yuma Cogeneration Associates.

At the time the report was written, the APS single line diagram showed that Imperial Irrigation District owned that plant. With this new information, and the four merchant power plants that have been constructed recently, the total is now five.

Staff will insert the following in Section 2.1, at the start of the last paragraph of page 6.

> *It is anticipated there will be five merchant power plants operating in Arizona, the summer of 2001. The merchant power plants are:*
>
> *Griffith located southwest of Kingman.*
> *Southpoint located north of I-40, near the California border.*
> *Desert Basin located northwest of Casa Grande.*
> *West Phoenix located in southwest Phoenix*
> *Yuma Cogeneration Associations power plant in Yuma (APS is to provide additional information.)*

[Insert in Section 2.1, on page 6, at the beginning of the last paragraph.]

Number of Transmission Lines from Approved Power Plants.
(Section 2.1, page 8, ¶ 2)

APS noted that the statement in the Assessment that "[a]ll but one approved plant has two or more transmission lines" contradicts the contents of Table 2, Summary of Proposed Arizona Power Plants. According to Table 2, there are three approved plants with 1 line/transformer tie.

Staff agrees there is a contradiction. At the time the report was written, two of the plants had been approved - Gila Bend had not been approved. At this time, all three plants have been approved. Staff will correct the statement to read:

> *All but one approved plant has two or more transmission lines.*
> *As of June 2001, three of the twelve approved power plants have single lines."*

[Insert in Section 2.1, on page 8, at the beginning of the last paragraph.]

Existing Arizona Power Plants.
(Section 2.1, page 7)

APS was concerned that several plants had been omitted from Table 1, *Summary of Existing Arizona Power Plants*. These plants include Douglas, Childs, Irving, Citizens Utility Company's generator in Nogales and the merchant power plant in Yuma. Additionally, the information cited for the Yucca power plant should be corrected as follows: Switchyard Voltage (kV) = 161 and 69; No. Units = 6; Capacity (MW) = 256; and AZ Utility Capacity (MW) = 161.

Staff did not include the above listed generators for the following reasons:

- The generator at Douglas is a backup generator and does not normally operate unless the radial line it is connected to is out of service. Cary Deise, of APS, stated that the Fairview generator is able to operate for load serving purposes - which staff interprets to

mean it is not limited to operation only when the radial transmission line is out of service. With this understanding, staff will include the Fairview generator in Table 1.

-
- Childs' output of 1 MW is insignificant; the hours of operation are limited and do not impact the transmission system because it is a small hydro unit on the Verde River.
- Irving's output of 3 MW is insignificant and the hours of operation are limited because it is a small hydro unit on the Verde River.
- Citizens Utility Company's generator at Nogales is a backup generator and does not normally operate unless the radial line it is connected to is out of service.
- The one-line diagram of the Yucca switchyard, provided by APS, shows 5 units - not 6 - units connected at Yucca.

APS will provide Staff a corrected copy of the Yucca switchyard.
Staff will add the Douglas generator to Table 1 - Summary of Existing Arizona Power Plants.

Yuma Area Import Capability.
(Section 2.3, page 12, ¶ 2)

APS has pointed out that the APS transmission import capability to Yuma should be increased from 140 MW to 175 MW. APS has contracted with Western Area Power Administration for 35 MW of firm transmission rights to Yuma.

Staff will insert this updated information:

APS indicated the Yuma area presently has an import capacity of 175MW.

[Insert in Section 2.3, page 12, 2nd paragraph.]

Summer 2000 Forecast.
(Section 2.3, page 13, ¶ 1)

APS requested clarification of the statement "APS indicated that its summer 2000 peak load forecast for the Valley fell 125 MW short of its local load serving capability." APS indicated that for 2000, the local load serving capability was 125 MW greater than the forecasted load.

Staff agrees the statement is confusing. Staff will revise statement to read:

APS indicated that for Year 2000, the local load serving capability was 125 MW greater than the forecasted load.

Salt River Project reported that SRP's import capability has increased from summer 2000 to summer 2001 as a result of capital investments in transmission enhancements. SRP's transmission import limit has increased from 3,625 MW to 4,134 MW for a net improvement of 509 MW.

Staff will insert the additional information:

SRP's transmission import limit has increased from 3,625 MW (year 2000) to 4,134 MW (year 2001) for a net improvement of 509 MW.

[Insert in Section 2.3, page 13, paragraph 2.]

OASIS ATC Postings.
(Section 2.5, page 23, Table 6)

APS commented that:

> [T]o ascertain export capability available for off-system transactions or import capability (in excess of that reserved to serve load), the OASIS of all transmission owner/operator must be queried. It appears that the ATC available from the California Independent System Operator (CAISO) was not included in the analysis. For example, the quoted amount of 0 MW available from APS SW of Four Corners does not include capacity the CAISO may have had available from Four Corners to the Southwest. The East of the River path and Southern Navajo system also have additional owners/operators who were not listed in Table 6, Arizona OASIS Posted ATC and the East of River path has additional lines which were not listed in Table 6. The 236 MW amount quoted for to the west and from the west appears to be only on APS' system. There are numerous other owner/operators who may have had ATC available for import/export to the west.

It is important to understand that ACC Staff did not perform the OASIS posted firm ATC analysis. Information regarding this matter was extracted from the "Western Interconnection Biennial Transmission Plan" report authored by the Regional Transmission Association (RTA). The contents of Table 6 of Staff's Report were lifted from Table II, on pages 83-84, of the referenced RTA report. Similarly, comments on page 23 of Staff's report document responds to the Transmission Congestion Survey contained in the same RTA report (on pages 74-77).

Staff assumes no responsibility for the accuracy of the RTA report. However, Staff did fail to include the Liberty to Mead 345kV line in the WSCC Path 49 EOR listing in Table 6 and will make such correction. Staff inadvertently left the Liberty to Mead 345kV line to the EROR List in Table 6.

Liberty to Mead 345kV

[Insert in Section 2.5, page 23, as last item under 49 EOR: East of Colorado River]

Staff does not intend to change other data listed in Table 6, as it represents the findings of parties that actually investigated the OASIS firm ATC available on April 2000. APS may be correct regarding exclusion of CAISO available ATC. But the 236 MW amount quoted (to the west and from the west) does not appear to be only on APS' system given the RTA listing 236 MW bi-directional via SRP.

SRP has pointed out that:

Customers desiring transmission services that are not available as ATC through OASIS need to make a Transmission Service Request. If the transmission service is not available, the Transmission Owner will perform a System Impact Study, if requested by the customer, to define how the service can be provided.

[Insert in Section 2.3, page 13, paragraph 2]

Staff agrees that an explanation of what to do if ATC is not available should be included in the Assessment and will insert the above language in the Assessment.

Pinnacle West Energy Local Generation.
(Section 3.2, page 28, ¶ 1)

APS commented that paragraph one should also include the following additions to local generation: Pinnacle West Energy proposed local generation of 198 MW of mobile generation in 2001 and 2002 and 96 MW from the repowering of West Phoenix 4 and 6 steam units beginning in 2001.

Staff will insert the addition language:

Pinnacle West Energy proposed local generation of 198 MW of mobile generation in 2001 and 2002 and 96 MW from the repowering of West Phoenix 4 and 6 steam units beginning in 2001.

[Insert in Section 3.2, page 28, after the 3rd sentence in paragraph 1.]

Public Opposition to West Phoenix Project.
(Section 3.2, page 28, ¶ 1)

APS expressed concerns because the Assessment stated that the West Phoenix Generating Station expansion project has "encountered significant public opposition that may potentially delay or restrict [the] project's scope and compromise [the] . . . ability to serve customers without utilizing rolling blackouts." APS contends that:

> APS and the project sponsor, Pinnacle West Energy, are unaware of any current public opposition to the West Phoenix expansion project. A recent intervention by a labor union and environmental advocacy group—brought after Pinnacle West Energy obtained its CEC for the expansion project—was successfully settled.

As of June 2001, all three of these plants have CECs approved by the Commission.

[Insert in Section 3.2, page 28, after the 2nd paragraph.]

In-service dates for Kyrene and Santan
(Section 3.2, page 28, ¶ 1)

SRP pointed out that the scheduled in-service dates for the Kyrene Expansion Project and Santan Expansion Project were not stated correctly in the Assessment. (The referenced SRP load serving capability chart noted fiscal years and not calendar years). SRP stated that the:

> Kyrene Expansion Project is scheduled for summer 2002 and Santan Expansion Project is scheduled for summer 2005. Both projects have received ACC approval. Although Kyrene Expansion Project was reduced in scope from 825 MW to 250 MW, a long-term energy purchase has been made for the full output of the Reliant Desert Basin Plant to offset the reduction. APS is providing firm transmission service for the plant output with delivery to SRP at the Kyrene Switchyard.

Staff did notice the chart was labeled "Fiscal Year". Staff will make the following correction:

> *Kyrene Expansion Project is scheduled for summer 2002 and Santan Expansion Project is scheduled for summer 2005".*
>
> [Replace 4th sentence, 1st paragraph, in Section 3.2, page 28.]

Regional Concerns
Section 3.4, page 36, ¶ 2

SRP provided an update of the progress of the Central Arizona Transmission Study:

> SRP, APS and TEP have been working with the Governor's staff and the Secretary of the Interior regarding the use of the recently declared National Monuments in Arizona to accommodate transmission that has been proposed and planned by the Transmission Owners. A tremendous amount of progress has been made to ensure that the corridors required for the needed transmission facilities are available as planned. SRP is also interested in developing regional transmission solutions that serve its customers and provide benefits to others in Arizona. SRP is deeply involved in the CATS study and stated in its last Ten-Year Plan that, "*SRP plans to participate, in conjunction with other interested parties, in developing some or all of the transmission systems that result in meeting the stated objectives of the CATS study ... projects to be constructed by SRP will be reflected in the appropriate Ten-Year Plan submission*". At SRP we have made, we are making, and we will continue to make transmission additions necessary to provide an adequate supply of low cost reliable power to our customers.
>
> Commission staff and the subject report correctly point out the critical importance of transmission, that transmission issues are not easily or quickly resolved, the inherent consequences of inaction, that transmission plans are highly dependent upon generation plans and market assumptions, and that overall transmission plans are not coordinated with overall generation plans.

Staff will insert the updated information:

The Central Arizona Transmission Study group was formed in August 2000. The work the utilities are doing in CATS is vital to Arizona's future energy needs and is to be commended as a first step. A June 2001 Phase I CATS draft report documents APS, SRP and TEP preliminary study results. WAPA study results are still pending.

[Insert in Section 3.4, page 37.]

House Bill 2040
(Section 4.4, page 42, ¶ 2)

APS commented that the Assessment should be corrected to reflect the fact that the Arizona Legislature has adopted the statutory change regarding information from merchant power plants.

Staff agrees that this correction should be made and will insert the following:

In 2001, House Bill 2040 was passed that required plants to file a plan with the Commission 90 days prior to filing an application for a Certificate of Environmental Compatibility. In addition, "The plans for any new facilities shall include a power flow and stability analysis report showing the effect on the planned Arizona electric transmission system."

[Insert in Section 4.4, page 42, at the end of paragraph 2.]

Addition to TEP's Ten-Year Plan

Tucson Electric has supplemented its ten-year plan with the following information:

The next increment of system construction that is planned to be constructed to meet load is the Saguaro to Tortolita 500 kV line. This line installation has been timed to coincide with the next capacity requirement of TEP and will add approximately 275mw of import capability to TEP's system. In addition this new line interconnection will also result in additional benefits to TEP's system besides this increase in import capability. This project was intended to be added in TEP's 2001 ten-year plan that was filed in January of 2001. This page was inadvertently left out of TEP's 2001 ten-year plan and TEP will be sending this sheet in to the ACC shortly. This is a new project that had not been identified in TEP's 2000 ten-year plan. This project was added when TEP determined that it had the ability to build this line under an existing contract with APS without impact on TEP two county bonding."

Staff will add TEP's Saguaro to Tortolita 500kV line to Appendix C, as well as the updated information all parties filed in the 2001 Ten-Year plans.

NEXT STEPS

As a follow-up to BTA, staff will:

Document Workshop Process and Results

Request Transmission Owners to File

- **Internal Planning Criteria**
- **System Ratings with Limiting Element Identified**
- **Technical Study Reports with Ten-Year filings Identifying Transmission Enhancements Resolving Local Constraints at the Earliest Possible Date**

Resubmit Staff Report and Proposed Order for Commission Consideration and Decision.

Original and 15 copies of the foregoing were docketed this 12th day of July, 2001 with:

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Arizona Corporation Commission
1200 West Washington
Phoenix, Arizona 85007

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