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Arizona Public Service Company's Initial Comments to Staff's Third Biennial Transmission Assessment Draft Report

Docket No. E-00000D-03-0047

September 17, 2004

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As requested by Staff, Arizona Public Service Company ("APS" or "Company") hereby submits its initial comments on the Draft Report prepared by the Utilities Division Staff of the Arizona Corporation Commission ("Commission") and their consultants, KEMA. APS has attempted to provide inclusive comments. However, given the limited time provided to review the Draft Report, APS may submit supplemental comments or raise additional comments at the next scheduled workshop.

I. General Comments

APS continues to support the collaborative process that has evolved for conducting the Biennial Transmission Assessment. In particular, APS agrees that the coordination of the transmission planning process in Arizona and the analysis of Reliability Must Run ("RMR") issues has markedly improved since the First Biennial Transmission Assessment. APS also appreciates the exceptional study work and process management of Staff and KEMA in this year's Biennial Transmission Assessment.

II. Specific Comments

APS' specific comments, identified by page number, are set forth in bullet points below. APS looks forward to discussing these comments at more length during the scheduled workshop on this Draft Report.

- **RMR Production Cost Modeling** (page 3, item d)—APS believes that RMR production cost modeling assumptions and process have been both straightforward and appropriate. APS uses the same production cost modeling process and data that is used for the Company's load and resource plans as well as regional and sub-regional planning. APS models the RMR effects both assuming transmission constraints and assuming no transmission constraints. The resulting difference of the two scenarios is a reliable estimate of the costs created by the constraint. APS does commit to working with Staff and other participants to improve the understanding of assumptions, to consider sensitivities, and to improve both the inputs used and the process if appropriate.

- **Dependence on Local Generation** (page 3, item d)—The Westwing disturbance in the Phoenix area during summer of 2004 demonstrates the robustness of the combined transmission and generation resources. Specifically, an extremely severe multiple contingency was managed with no involuntary load reduction. This contingency was effectively managed because there is both reasonable amounts of local generation to support the Phoenix system and because of the configuration of the Valley transmission system. Thus, local generation is not the sole solution for reliable service during multiple contingency outages. Also, APS and SRP should assess existing facilities and take appropriate action to minimize the probability of such extreme multiple contingencies

occurring in the future in addition to evaluating whether there are cost-effective ways of increasing the import capability near term with additional transmission facilities beyond those already planned.

- **Palo Verde System** (page 3, item f)—APS considers 2007 to be "near term" for purposes of this Draft Report. During that year there are two planned 500 kV projects that will significantly increase the outlet capability of the Palo Verde hub and will further accommodate the full output of existing units.

- **RMR Study Assumptions** (page 4, item a. 2 and page 39, last sentence in 3.1.3)—APS considers the choice of local generation reserve margin used in the 2004 RMR study to be sufficient for the Phoenix area RMR analysis. This assumption results in adequate load serving capability under scenarios of multiple Phoenix area generation outages. APS will, however, work with Staff and other parties during the 2006 assessment process (specifically at the SWAT RMR kickoff meeting) to review this issue in more detail as proposed by the Draft Report.

- **Integrated Generation Queue** (page 19)—APS needs more information on what Staff is proposing by an integrated generation queue for the State of Arizona.

- **WestConnect** (page 22, first sentence in first full paragraph)—The word "formed" should be changed to "proposed."

- **STEP** (page 42 and 43)—STEP is the Southwest Transmission Expansion Planning group.

- **SWAT-CRT** (page 47)—This section states that the SWAT Colorado River Transmission (SWAT-CRT) Study Group is closely linked with the STEP-AC group. In fact, the groups have merged and there is only one group that reports to both SWAT and STEP.

- **RMR Study Assumptions** (page 49 item 2 at bottom)—See discussion in first bullet point, above.

- **System Description** (page 51 section 4.1 last two sentences)—The wording of these sentences does not appear to align with the presentation of information in Table 3 and 4. For example, table 3 has no merchant generation and Table 4 appears to list all changes since the first BTA, not the second BTA. Also, given potential disagreements as to what constitutes a "merchant plant" (i.e., Kyrene), APS recommends changing the title to "Generation Additions" rather than "Merchant Plant Additions." There is a typographical error in "Harquahala."

- **Figure 6 and Table 5** (page 54)—Consider whether these should reflect the two 500 kV Gila River-Jojoba lines. The reference in Table 5 to Liberty - TS3 should be for Liberty - Rudd, which is a 230 kV rather than a 345 kV line.

- **Table 7** (page 57)—The Table should note that the generation figures presented are gross, rather than net.

- **Transmission Constraints** (page 57 last paragraph, second sentence)—APS does not believe that there has been any evidence presented to support an assumption that plants interconnected at the Palo Verde Hub are not financially viable "because of transmission constraints." APS believes this sentence should be deleted, and is not necessary to support the point Staff is making in the section.

- **Transmission Constraints** (page 58 first paragraph of section 4.3.2 last sentence)—APS does not believe that this conclusion is supported by the current data. The 2004 Summer Operations Study concluded that the Palo Verde Hub is thermally limited, except under light loading conditions, to 9989 MW rather than 7546 MW. APS believes that this data should be further discussed at the workshop.

- **Pinal West-Saguaro Line** (page 63 last paragraph)—The Pinal West-Saguaro transmission line is not proposed for 2010 in the Company's 10-Year Plan. The CATS alternative is a proposed participation project that APS has not yet committed to and has not yet identified a need for.

- **Planned EHV Additions** (page 65)—The Second Knoll loop-in is "planned" rather than an "alternative." Also, the Pinal West-Santa Rosa-Browning line is planned in phases and not all phases will be in-service in 2007.

- **New Mexico Generation** (page 69 section 5.3 first paragraph)—It is incorrect to portray Four Corners and San Juan as being electrically in Arizona rather than New Mexico as the statement infers. The generation is in New Mexico and the output of the plants is shared by <u>both</u> Arizona and New Mexico utilities.

- **New Mexico Transmission** (page 69 section 5.3 second paragraph)—APS believes that this paragraph should be clarified.

- **Description of Must Run Requirement** (page 79, first paragraph)—APS recommends clarifying that power generated from "local" (rather than "RMR") generation "may be" (rather than "is") more expensive and may be environmentally "less desirable" (rather than "undesirable"), since many local generators have CECs and comply with applicable environmental standards.

- **RMR Study Indicators** (page 81, bullet points)—A fourth bullet should be added stating "RMR costs - The cost of out-of-merit-order dispatch from RMR requirements."

- **NERC and WECC N-1-1 Criteria** (page 87)—This criteria requires transmission planning to accommodate maintenance outages while still being able to meet the N-1 criteria during a subsequent forced outage. The nature of the Phoenix area load is such that during the eight month period of October-May, any line or local area generator can be taken out of service for maintenance with adequate import capability and local area generation remaining to meet the N-1 criteria. Maintenance outages of 12-14 hours can

also be taken during the summer at night. This capability will be documented in future 10-year plan filings.

- **Voltage Stability Studies** (page 88, first full paragraph, last sentence)—Add "voltage stability" before the words "import limit" to clarify the sentence.

- **Production Cost Modeling for RMR Analyses** (page 95 second paragraph and two bullets items; also page 3, page 4 a.1, and page 86)—Staff's consultants noted two areas where the data used for the production cost modeling was inconsistent with their expectations. The first was that heat rates for gas/oil units were expected to be lower than for coal units. As to this issue, the data provided are for generating units located in the Desert Southwest (Arizona, New Mexico, and Southern Nevada). The gas/oil steam units located in this region are generally small, averaging less than 100 MW each, and were constructed primarily in the 1950s and 1960s. These units are not as efficient as some of the large, more modern plants located in other regions such as California. The heat rates shown are consistent with the performance of similar APS' units. The coal units in the Desert Southwest, on the other hand, are generally larger and were installed more recently. Both the larger size and newer technology contribute to the coal units having lower heat rates than the gas/oil units in this region.

  The second area was the consultant expected variable O&M to be higher for the coal units than the gas/oil units. Coal units located in the Desert Southwest burn lower sulfur coal than coal plants in many other parts of the country. This contributes to the lower variable O&M costs of Desert Southwest coal units. The costs shown in Table 14 are consistent with those used by APS in the operation and dispatch of its similar generation units.

  Staff also proposes that more detailed data and production cost results be used in the RMR analysis. The parties must be sensitive to the competitively-sensitive nature of this proprietary information. As APS is engaged and will continue to be engaged in competitive procurements, public disclosure of its production cost modeling data could adversely impact APS' procurement efforts and its customers. APS will work with Staff to provide such information under a suitable protective agreement.

- **Calculation of Reserve Margin** (page 96)—APS believes that the calculation of the reserve margin in the Draft Report in not correct. The reserves indicated in Table 14 are related only to the in-Valley generation. Reserve capacity is also carried outside the Valley to support the capacity and energy associated with the SIL. The correct formula, which yields a 10.5% reserve margin rather than a 2.5% reserve margin is:

  RM=(SIL + LOCAL GENERATION – PEAK DEMAND) / (PEAK DEMAND – SIL)
  = (11,103 + 3,649 – 14,406) / (14,406 – 11,103)
  = 10.5%

  APS intends to fully address the reserve margin in its transmission planning processes.

- **Phoenix SIL and MLSC** (page 97 first paragraph)— From table 14 the SIL increases 2485 MW between 2005 and 2012. The only generation addition after 2005 is Santan unit 6 for 275 MW. Because the SIL is determined with no local generation operating, all 2485 MW import increase is due to planned transmission improvements. APS believes it is currently appropriate and cost-justified to meet Phoenix load requirements with a combination of local generation and transmission.

- **Cost of Curtailed Energy** (page 97 paragraph before section 6.2.2)—The RMR analysis for 2012 did not result in any unserved or curtailed energy, so costs of curtailment were not modeled and the comparison is an "apples to apples" comparison. Although the local generation reserves were less than desired, the simulation did not result in any hours where multiple generation outages occurred at peak load to the extent that the load could not be served. As a practical matter, because APS has an obligation to serve, the Company does not believe that considering the costs of curtailed energy is meaningful or relevant in the transmission planning process. The Company would not propose a plan that relied on curtailment as the most cost-effective option of serving load. Thus, APS believes that further discussion is needed as to what specific information Staff is seeking and why Staff believes the comparisons are "apples to oranges."

- **Status Tables** (page 113 to 114, Tables 24 and 25)—On APS' copy of the Draft Report, the Status column was blank.

- **Renewable Generation** (Section 8.2 starting on page 115)—This information was not discussed at any workshop or stakeholder process that APS is aware of. APS would recommend clarifying or footnoting who provided this information (i.e., KEMA, the renewable industry) so that it is not misconstrued as something developed by the BTA participants.

- **Palo Verde System** (page 124 item f)—Same comment as above at page 3, item f.

- **RMR Study Assumptions** (page 125 item a. 2)—Same comment as above at page 4, item a.2.

- **Network Interconnections** (page 126 item c) APS is concerned that such a condition may be considered contrary to current FERC policy. APS believes the parties should discuss in more detail this recommendation at the workshop.

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