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2009 OCT 30 P 3:48

AZ CORP COMMISSION
DOCKET CONTROL

IN THE MATTER OF THE COMMISSION'S) DOCKET NO. E-00000D-07-0376
FIFTH BIENNIAL TRANSMISSION)
ASSESSMENT ("BTA"), PURSUANT TO THE)
ADEQUACY OF EXISITING AND PLANNED)
TRANSMISSION FACILITIES TO MEET)
ARIZONA'S ENERGY NEEDS IN A RELIABLE)
MANNER.)

NOTICE OF FILING
COMPLIANCE

In compliance with Decision No. 70635, UNS Electric, Inc. and Tucson Electric Power Company, through undersigned counsel, hereby file their Report on Renewable Transmission Projects.

RESPECTFULLY SUBMITTED this 30th day of October 2009.

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UNS ELECTRIC, INC.
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TUCSON ELECTRIC POWER COMPANY'S
REPORT ON
RENEWABLE TRANSMISSION PROJECTS
OCTOBER 2009

TABLE OF CONTENTS

Introduction.....	1
I. BTA Procedural History	1
II. Project Selection Methodology.....	3
A. Project Identification Process.....	3
B. Qualitative Analysis Factors	3
C. Qualitative Analysis.....	4
D. Economic Analysis Factors.....	4
III. Three Renewable Transmission Projects	5
A. Palo Verde to Pinal Central 500 kV Project.....	5
B. Pinal Central to Tortolita 500 kV Project	6
C. Palo Verde to Tortolita 500 kV Project Summary	7
D. Apache to Saguaro/Tortolita 230 kV Western Upgrade Project.....	8
IV. Proposed Funding Mechanisms	11
V. Impact to Ratepayers.....	12
VI. Other Considerations.....	13
VII. Conclusion	13

EXECUTIVE SUMMARY

In Decision No. 70635, the Arizona Corporation Commission (“Commission”) required the jurisdictional Arizona utilities to identify and develop plans for three renewable transmission projects (“RTPs”) and submit a report thereon by October 31, 2009. This new process is intended to identify and overcome potential economic and transmission siting barriers to development of renewable energy projects. Under the historical regulatory structure, utilities have been reluctant to assume the financial risk of siting and building transmission without developer commitments to fund the facilities. On the other hand, renewable energy project developers need assurance of cost effective transmission access in order to commit to renewable generation project development.

Tucson Electric Power Co. (“TEP”) and UniSource Electric (“UNS Electric”), (collectively “the Companies”), in response to Decision No. 70635, have actively participated in the Renewable Energy Transmission Task Force (“RTTF”), the Arizona Renewable Resource and Transmission Identification Subcommittee (“ARRTIS”) and Finance Subcommittee process. The process included the identification of areas within the state where solar and wind resources were most suitable for utility-scale generation development.¹

In the Companies’ case, the most promising RTP opportunities involve increasing transmission access for renewable projects located in areas, or that may be delivered to, the Palo Verde Hub, Pinal Central, Tortolita, or renewable resources located in southeast Arizona. These RTPs have the advantage that renewable power may be transmitted in either direction, thus increasing the marketing potential for the renewable energy suppliers. Additionally, these RTPs will be able to transmit power from a combination of renewable and conventional generation resources to the load pockets.

The RTPs identified by the Companies are more fully described herein. By title they are:

1. Palo Verde to Pinal West to Pinal Central 500 kV Project
2. Pinal Central to Tortolita 500 kV Project
3. Western Apache to Tortolita 230 kV Line Upgrade Project

These RTPs have the potential to provide transmission capacity in excess of the Companies’ current Renewable Energy Standard (“RES”) requirements, and to support development of new renewable resources at a reasonable cost and within a realistic time frame.

¹ Final Report of the Arizona Renewable Resource and Transmission Identification Subcommittee – September 2009.

INTRODUCTION

Tucson Electric Power Company (“TEP”) and UniSource Electric, Inc. (“UNS Electric”), (collectively “the Companies”) hereby files this report in compliance with Decision No. 70635 issued by the Arizona Corporation Commission (“Commission”). Specifically, this report details three potential renewable transmission projects (“RTPs”) for the Companies. This report includes supporting information on the activities of the Southwest Area Transmission (“SWAT”) Renewable Energy Transmission Task Force (“RTTF”) and the RTTF subcommittees, including the Arizona Renewable Resource and Transmission Identification Subcommittee (“ARRTIS”).

TEP generates, transmits and distributes electricity to approximately 400,000 retail electric customers in a 1,155 square mile area in Southern Arizona. UNS Electric provides electric service to the majority of Mohave County and Santa Cruz County, including the cities of Kingman, Lake Havasu City and Nogales. The Company serves over 71,000 customers in Mohave County and over 18,000 customers in Santa Cruz County.

The Companies support the Commission’s efforts to promote construction of RTPs to meet applicable Renewable Energy Standard (“RES”) requirements. The Companies also support the multiple uses of transmission facilities. Therefore, transmission facilities that are to be designated as renewable transmission projects should function not only to meet RES, but also should facilitate the reliability of the electric grid and the possibility to export to other markets.

I. BTA PROCEDURAL HISTORY.

The ACC biennially reviews ten-year plans filed by Commission-regulated utilities and other entities wishing to construct transmission within the State of Arizona.² After analyzing the 10-year plans and conducting workshops for stakeholder input, ACC Staff drafts the Biennial Transmission Assessment (“BTA”) evaluating the adequacy of existing and planned transmission facilities to reliably meet the present and future needs of the state.³ Every two years, the BTA is finalized when approved by a written decision of the Commission.⁴

The Commission’s Fourth BTA Decision ordered that, for the Fifth BTA, Commission-regulated electric utilities (“the electric utilities”) should prepare a plan to identify: the renewable resources areas in the state, the amount of available transmission capacity available to deliver the identified renewable resources to load, and the transmission needed to deliver the identified renewable resources to load in Arizona.⁵ To aid in compliance with the Commission’s Order, in 2007, the utilities developed the RTTF, as a subcommittee of SWAT⁶, to identify renewable energy resource areas and the transmission necessary to bring those resources to load centers. Following coordinated efforts between the electric utilities and stakeholders, SWAT issued the *2007 SWAT Renewable Energy Transmission Task Force Report*

² ARS § 360.02.

³ ARS § 360.02(G).

⁴ Id.

⁵ ACC Decision No. 69389 (March 22, 2007), at 8.

⁶ SWAT is part of a group that handles sub-regional transmission planning in the Southwest. See WestConnect <<http://www.westconnect.com/planning.php>> (last visited August 21, 2009). It is comprised of transmission regulators/governmental entities, transmission users, transmission owners, transmission operators and environmental entities. See WestConnect <http://www.westconnect.com/planning_swat.php> (last visited August 21, 2009).

identifying the location and a theorized amount of renewable energy development opportunities for several different locations in Arizona, and conceptual plans for transmission lines necessary to bring those resources to load centers.⁷

Following the Fifth BTA, the Commission directed the electric utilities to develop plans to identify future RTPs and to develop plans and proposed funding mechanisms to construct the top three RTPs to serve load in their respective service territories.⁸ In addition, the electric utilities were directed to conduct a joint workshop or series of planning meetings to develop ways in which new transmission projects may be identified, approved for construction, and financed in a manner that will support the growth of renewable energy in Arizona.⁹

The RTTF established the Arizona Renewable Resource and Transmission Identification Subcommittee ("ARRTIS") to more specifically identify those areas in Arizona with the best potential for renewable generation project development and aid the utilities in their response to the BTA Decision.¹⁰ ARRTIS convened a process to gather, review, and map renewable resource and environmental sensitivity data for the State of Arizona and to provide input and support to the RTTF renewable transmission planning efforts.¹¹ The process identified areas within the state where solar and wind resources were available for utility-scale generation development. ARRTIS developed resource maps identifying environmental exclusion and sensitivity areas, with an overlay of existing and potential future transmission corridors.¹² The RTTF used the information provided by ARRTIS to identify transmission options that would link the resource areas to the existing transmission system and/or to load pockets within the state or to export markets.¹³

The RTTF also established a Finance Subcommittee to investigate and recommend methods for financing RTPs in Arizona.¹⁴ Areas of investigation included: (i) developing a working definition for a renewable transmission project; (ii) reviewing various project subscription methodologies; (iii) developing provisions for recovery of reasonable and prudent costs, including various methods for allocating both a base and incentive return on equity for development of RTPs; (iv) and assessing relevant legislative and regulatory developments. The Finance Subcommittee held several meetings to discuss a range of issues related directly to financing methodologies.¹⁵ It coordinated its efforts with the ARRTIS to provide recommendations to the Commission-regulated electric utilities.¹⁶

The RTTF timeline lists the milestones and graphically illustrates the coordinated activities since the December 11, 2008 Decision. (See Exhibit A, attached hereto and by this reference incorporated herein.)

⁷ See 2007 SWAT Renewable Energy Transmission Task Force Report (filed in Docket No. E-00000D-07-0376, May 15, 2008). The opportunities included wind, solar, biomass, hydro and/or geothermal renewable energy types.

⁸ See ACC Decision No. 70635 (December 11, 2008), at 8-9.

⁹ Id.

¹⁰ See WestConnect <http://www.westconnect.com/planning_swat_rttf_arrtis.php> (last visited August 21, 2009).

¹¹ See Exhibit A.

¹² See *Final Report of the Arizona Renewable Resource and Transmission Identification Subcommittee* (September 2009)

¹³ Id.

¹⁴ See WestConnect <http://www.westconnect.com/planning_swat_rttf_finance.php> (last visited August 21, 2009).

¹⁵ See Exhibit A.

¹⁶ The workshops were ordered by ACC Decision No. 70635.

Areas identified as containing key renewable resources in strategic locations, and transmission projects with the highest potential to support development of Arizona renewable resources are shown in Exhibits B and C, attached hereto and by this reference incorporated herein. As noted in the Final ARRTIS Report, "The final maps and information are not intended to be used for project-specific siting or approvals. The work products will be useful to the Arizona electric utilities, but also to project developers, policy makers, conservationists, and those interested in renewable energy development."¹⁷

II. PROJECT SELECTION METHODOLOGY.

The Companies used the information that resulted from the coordinated State process to develop a project identification methodology to meet the goal of supporting "the growth of renewable resources" in Arizona. The Companies developed and analyzed alternative potential RTPs in the context of complying with Decision No. 70635 in coordination with the electric utilities in their effort to identify three RTP's. The project plans that emerged were discussed with other interested parties in several joint planning meetings.

A. Project Identification Process.

The Companies conducted a four-stage process to identify and screen candidate RTPs. The first stage entailed identification of renewable resource areas that, based on currently available information, have the greatest potential to cost effectively meet the Companies' RES requirements. The second stage involved development of a wide range of candidate RTPs to transmit power from the identified renewable areas to the Companies' load centers. The third stage was a screen based on qualitative criteria to narrow the candidate RTPs on which to conduct a more quantitative analysis. The final stage was a prioritization process to rank the alternatives to determine costs and benefits, and potential customer rate impacts. The Companies emphasized renewable projects that are likely to be implemented within the five year planning horizon. Longer range projects would be introduced in the first formal Renewable Transmission Action Plan ("RTAP") to be filed after this RTP plan is submitted.

B. Qualitative Analysis Factors.

Qualitative factors served as a guide to reduce the number of transmission projects such that more detailed analysis could be conducted on the most feasible among the alternatives. The qualitative analysis factors include:

- Potential to access renewable resource areas that utilize existing and/or planned transmission project capacity within the five year planning horizon;
- Expectation of RTP ability to minimize future renewable energy cost;
- Opportunities for joint transmission project participation;
- Potential to support multiple renewable energy markets;
- Potential for benefits beyond renewable energy benefits for the Companies' customers;
- Potential for near-term utilization by renewable or other transmission customers;
- Assess to renewable energy projects in the existing queues;
- Potential for phased implementation to minimize financial risk;
- Anticipated permitting sensitivity (resource or transmission);

¹⁷ Final Report of the Arizona Renewable Resource and Transmission Identification Subcommittee, September 2009, p. 24.

- Potential for transmission service requests beyond renewable energy projects to support cost recovery; and
- Anticipated magnitude of capital cost.

C. Qualitative Analysis.

The RTPs selected by the Companies meet the screening criteria identified in the Qualitative Analysis Factors section. The three RTPs provide clear linkages between renewable resource areas and TEP and UNS Electric customer retail load centers as shown in Figure 1.

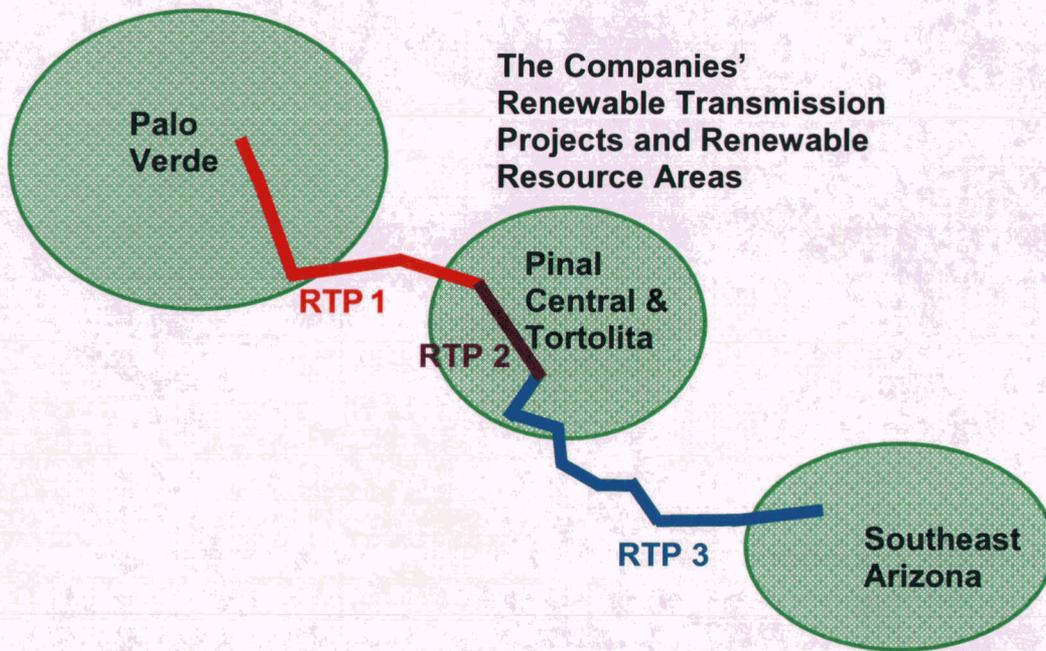


Figure 1

There is significant interest in renewable resource development in the Palo Verde and Pinal Central & Tortolita areas, as can be seen in Exhibits B and C. Therefore, RTP 1 and 2 are vital transmission projects to transmit renewable energy from those areas to the Companies' load pockets. RTP 3 has the potential to open opportunities for renewable project development that may otherwise be suppressed due to the perceived high cost of transmission access. All of the RTPs are strategically linked, and integrated with the Arizona and Southwest Area Transmission system to provide intra-Arizona and export market access.

D. Economic Analysis Factors.

Economic analysis consisted of estimating project capital cost of renewable transmission and renewable resources, plus cost of delivered energy. Capital cost of transmission projects are planning feasibility level assuming a plus or minus 25 % accuracy.

Delivered cost of energy considers generator busbar plus a calculated rate for project transmission and substation cost per unit of energy delivered. The formula for delivered energy follows:

Delivered Cost = Gen. Busbar Cost + T Cost + SS Cost (\$/MWH)

III. THREE RENEWABLE TRANSMISSION PROJECTS.

In compliance with Decision No. 70635, the Companies identify the following three RTPs:

- Palo Verde to Pinal Central 500 kV Project
- Pinal Central to Tortolita 500 kV Project
- Apache to Saguaro/Tortolita 230 kV Western Upgrade Project

These RTPs have the potential to provide transmission capacity in excess of the Companies' current RES requirements, and to support development of new renewable resources at a reasonable cost and within a realistic time frame.

A. **Palo Verde to Pinal Central 500 kV Project.**

The Palo Verde to Pinal Central Project is part of a 500 kV joint proposal to extend 500 kV from the Palo Verde hub into the Southeast Valley area southeast of Phoenix. The joint participants include Electric Districts (ED2, ED3 and ED4), Salt River Project ("SRP") and Southwest Transmission Cooperative ("SWTC") along with TEP. The first segment of this project, Palo Verde to Pinal West, was placed into service in 2008. The balance of the project, which was originally scheduled for completion in 2011, was deferred to 2013. The project is shown below in Figure 2.

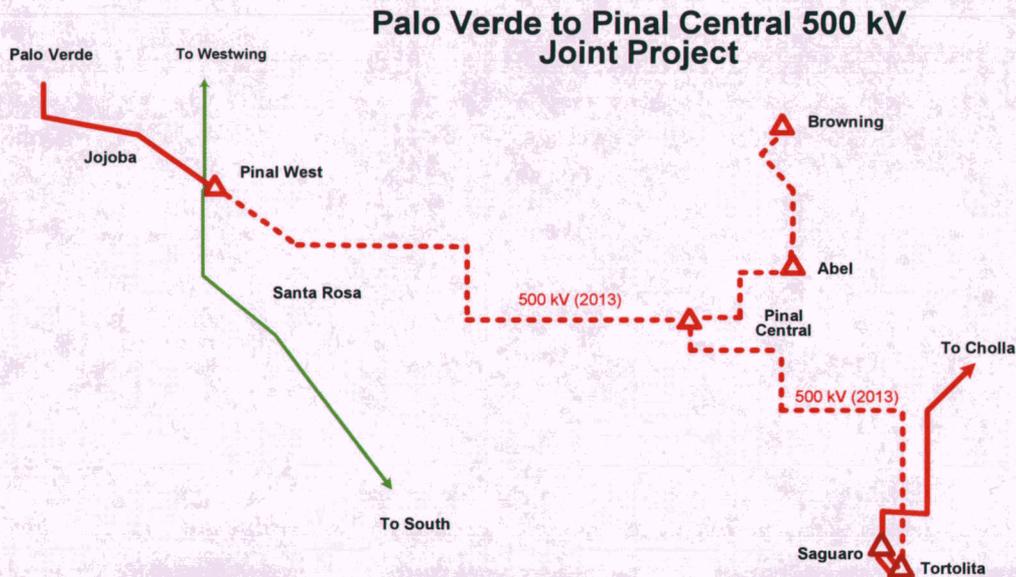


Figure 2

Project participants are considering further deferral due to economic conditions. Additional changes to the project scope, schedule and participation levels, in light of support of renewable energy

projects may be accommodated. This project is intended to support renewable resource development by increasing transmission access at Palo Verde, Pinal Central and Tortolita. Actual project schedules may be advanced if new renewable resource projects are scheduled earlier than needed to meet load serving capability.

TEP currently has approximately 96 MW of capacity on the existing Palo Verde to Pinal West segment¹⁸ for a total investment estimated at \$18 million. Capacity on this segment will increase to approximately 403 MW¹⁹ when the project is extended to the Southeast Valley. TEP may also increase its participation percentage, and related cost obligations to accommodate additional renewable generation delivered to Palo Verde. TEP capacity allocation could then increase to approximately 607 MW. Thus, capacity increase on the Palo Verde to Pinal West segment is dependent upon implementing the Pinal West to Pinal Central segment. Hence, The Companies consider both segments, the existing Palo Verde to Pinal West and Pinal West to Pinal Central segments to be a single RTP.

Transmission transfer capacity on the Palo Verde to Pinal West segment must be coordinated with downstream existing or planned projects. Available capacity on the Pinal West to Pinal Central segment, as currently planned is approximately 285 MW, and must therefore be increased accordingly. TEP may increase its participation, and cost responsibility such that its share would be approximately 400 MW. This amount could potentially be slightly larger depending on decisions by other project participants.

TEP's investment in the Pinal West to Pinal Central segment, at the current participation level, is estimated at \$34 million. Increasing participation to 400 MW would cost an additional \$14 million, bringing the TEP total investment in the Pinal West to Pinal Central segment to \$48 million.

Increasing TEP participation in the Palo Verde to Pinal West segment to achieve about 607 MW of capacity would increase TEP's cost obligation by an estimated \$9 million. Approximately 400 MW would be upstream of the Pinal West to Pinal Central segment. The balance is assumed to use the Pinal West to South transmission path.

This project therefore could provide net capacity bi-directionally between Palo Verde and Pinal Central of about 400 MW total. TEP estimates that potentially half could be allocated to transmission of renewable energy.

B. Pinal Central to Tortolita 500 kV Project.

The Pinal Central to Tortolita Project consists of a connection of a new 38 mile 500 kV line that would tap the Southeast Valley project at Pinal Central. Refer to Figure 2. This project was originally planned as a single line with potentially only two participants – SWTC and TEP. However, additional participants have joined the project with the intention of expanding it to two lines. This proposal assumes only the single line project is in place, but allows flexibility in future submittals to increase the scope.

The transfer capacity, for the single line, is preliminarily estimated at 500 MW. TEP's share is estimated at 375 MW, with cost responsibility for 75% of the total. TEP's share of the project cost is estimated at \$59 million. TEP proposes to increase its participation to achieve 400 MW of capacity, in order to match the Pinal West to Pinal Central segment. TEP's cost would increase to about \$63 million.

¹⁸ SWTC is the only other of the Southeast Valley participants that is currently utilizing the Palo Verde to Pinal West segment.

¹⁹ Capacity values are based on recent studies, but subject to change as the studies are updated.

These estimates are subject to change depending on rating studies and final agreement on participation percentages.

TEP's share of this project could provide net capacity bi-directionally between Pinal Central and Tortolita of about 400 MW total. TEP estimates that potentially half could be allocated to transmission of renewable energy.

This RTP would expand transmission access by renewable resources to the Tortolita area. A summary of the attributes and costs of the first two RTPs is contained in the following section.

C. Palo Verde to Tortolita 500 kV Project Summary.

Project and incremental costs and capacity associated with various alternatives in the Palo Verde to Tortolita path are summarized in Table 1 below:

Project	EHV Segment	10-Year Plan		Incremental RTP		New Import Capability	
		TTC (MW)	Cost (\$Million)	TTC (MW)	Cost (\$Million)	TTC (MW)	Cost (\$Million)
Project 1	PV - PW	403	\$18	0	\$0	403	\$0
	PW - PC	285	\$34	115	\$14	400	\$14
	Project 1: Palo Verde to Pinal Central				115		400
Project 2	PC - TO	375	\$59	25	\$4	400	\$4
Project 1 & 2 Net TTC		285	\$111	115	\$18	400	\$129
Net Import Cost (\$/kW)			\$389		\$157		\$323

Table 1

The first two columns identify each project and their respective segments. The column with the heading 10-Year Plan shows the capacity and cost of the planned projects that are included in the 10 year plan with associated TTC and estimated project costs. Third is incremental TTC and cost associated with increased participation in downstream segments as needed to match the upstream capacity of the existing Palo Verde to Pinal West project. Finally New Import Capability (TTC & Cost) is shown. Generally, the combination of RTP 1 and 2 has a total transfer capacity of 400 MW from Palo Verde to Tortolita. This represents an increase from the planned Pinal West to Pinal Central and Pinal Central to Tortolita capacity of 115 MW and 25 MW respectively.

Table 2, below, shows the transmission cost associated with the incremental investment required to increase TEP's share of RTP 1 and 2 to 400 MW. These are the cost for effectively creating a 400 MW path from Palo Verde to Tortolita in order to access the anticipated renewables market at the Palo Verde hub.

Renewable Technologies	Solar 1-Axis	Solar CSP with Storage
Project Capacity, MW	115	115
Project Cost, \$Million	\$18	\$18
Levelized Fixed Charge Rate, %	12.40%	12.40%
Levelized Cost (20 Year PPA), \$Million	\$2,233	\$2,233
Expected Capacity Factor, %	24%	38%
Expected Generation	242	383
Levelized Cost (20 Year PPA), \$/MWh	\$9.23	\$5.83

Table 2

The levelized cost for renewable transmission, based on the incremental costs shown in Table 2 are in the range of \$5/MWh to \$10/MWh.

D. Apache to Saguaro/Tortolita 230 kV Western Upgrade Project.

The Apache to Saguaro/Tortolita 230 kV Western Area Power Administration (“WAPA”) Upgrade Project is based on a joint proposal that SWTC and TEP submitted in response to the Statement of Interest (“SOI”). This project has renewed interest in view of the Commission’s Decision, and therefore should be considered as an RTP.

On March 4, 2009, the WAPA proposed through the Federal Register to adopt a Transmission Infrastructure Program (“TIP”) to implement Section 402 of the American Recovery and Reinvestment Act of 2009 (“Recovery Act”)²⁰ “for the purpose of constructing, financing, facilitating, planning, operating, and maintaining, or studying construction of new or upgraded electric power transmission lines and related facilities . . . for delivering or facilitating the delivery of power generated by renewable energy resources constructed or reasonably expected to be constructed.” WAPA also issued on this same date a Request for Interest (“RFI”) “from any entity or entities interested in identifying a proposed transmission project, primarily in WAPA’s service area, and/or desiring to participate with WAPA and possibly others by financing, constructing or owning facilities or acquiring transmission rights or entering into long-term transmission service agreements on that project.” Entities wanting to identify a proposed transmission project in response to this RFI were asked to submit an SOI to that effect by April 3, 2009.

The proposal is shown in Figure 3, as it was originally submitted to WAPA. On April 3, 2009, TEP, along with other utilities in the State, submitted an SOI in support of upgrading various transmission lines within WAPA’s service area. In Southeast Arizona, SWTC and TEP identified the upgrade of WAPA’s Saguaro to Apache 115 kV line to a double-circuit 230 kV line as a candidate for the TIP. This upgrade would be a significant upgrade to WAPA’s backbone 115 kV system in the area. Hence it improve multiple transmission provides’ systems, increases local load serving capability, plus it adds a large potential to support the growth of renewable resources in Southeast Arizona. It also satisfies the goals of the WAPA TIP Program which are “to identify, prioritize and participate in the study, facilitation, financing, planning, operating, maintaining, and construction of new or upgraded transmission facilities and additions that will help bring renewable energy resources to market across the West.”²¹

²⁰ See Federal Register, Vol. 74, No. 41/ Wednesday, March 4, 2009/Notices.

²¹ *Id.*

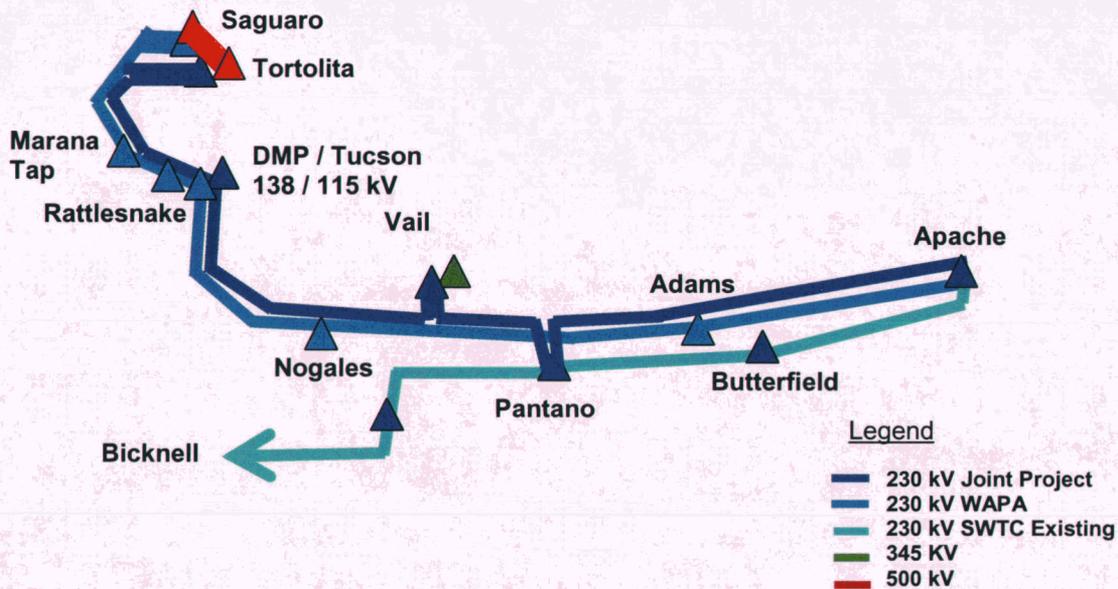


Figure 4

The total estimated cost of the Project is approximately \$205 million. SWTC and TEP, when issuing the SOI for this project recognized that there are other load-serving entities and transmission providers that may also benefit from this project. These entities, along with SWTC and TEP, could seek to have joint ownership of one of the 230 kV lines proposed in the upgrade of this 115 kV line to a double-circuit 230 kV line. The shared usage of the non-WAPA portion of this line equates to approximately \$100 million.

SWTC and TEP have participated in discussions with other entities that have also expressed interest in funding and participating in this Project. These discussions have resulted in identification of a project that may be expanded from what was submitted to WAPA through the SOI process. The project could potentially involve additional segments to the proposed double-circuit 230 kV line that would provide greater benefit to SWTC and TEP, and broaden the number of customers benefiting. The Apache to Saguaro/Tortolita 230 kV WAPA Upgrade Proposal will be viable in either case.

If only SWTC and TEP participate in addition to WAPA, TEP's share would be about \$39 million out of a total of \$205 million. TEP's share includes one half the cost of the joint portion of the 230 kV circuit (assuming WAPA bears the cost of the second circuit) from Vail to Tortolita, one half of the cost of the Tortolita and Vail interconnections, plus 100% of the DMP substation cost.

SWTC would be responsible for 100% of the joint participant line cost from Apache to Vail, 50% of the Vail to Tortolita line, 50% of the Vail and Tortolita substations, plus 100% of the Pantano station. Cost estimates for the three assumed participants are summarized in Table 3 below.

Component	WAPA (Millions)	SWTC (Millions)	TEP (Millions)
Transmission Lines	\$57	\$42	\$16
Substations	\$49	\$16	\$26
Subtotal	\$105	\$61	\$39
Total Project	\$205		

Table 3

Table 4, below, summarizes the per-unit cost of transmission associated with service to deliver energy from the Southeast Arizona renewable resource area to TEP and/or Parker-Davis customers. RTP 3 opens access on multiple transmission systems and allows for the delivery of renewable resources to both TEP and UNS Electric.

Project 3	Solar 1-Axis	Solar CSP with Storage	AZ Wind
Project Capacity, MW	250	250	250
Project Cost, \$Million	\$39	\$39	\$39
Levelized Fixed Charge Rate, %	12.40%	12.40%	12.40%
Levelized Cost (20 Year PPA), \$Million	\$4,837	\$4,837	\$4,837
Expected Capacity Factor, %	24%	38%	30%
Expected Generation	526	832	657
Levelized Cost (20 Year PPA), \$/MWh	\$9.20	\$5.81	\$7.36

Table 4

RTP 3 increases TEP Total Transfer Capability by approximately 250 MW. Cost of delivery of single axis solar, CSP and Arizona wind, considering individual generator characteristics are estimated at \$9.20/MWh, \$5.81/MWh and \$7.36/MWh respectively.

IV. PROPOSED FUNDING MECHANISMS.

As previously mentioned, the RTTF formed a Finance Subcommittee to recommend funding mechanisms and components of cost recovery that each utility can apply to its proposed RTPs²². This report presents many recommendations for the Commission to consider that can provide the necessary assurances to enable the Companies to proceed with an approved RTAP and activities for an RTP.

Historically, utilities generally have had to wait until a transmission line is completed and deemed “used and useful” before applying for inclusion of all RTP related costs in rate base. This creates a substantial regulatory lag and mismatch between cost incursion and cost recovery. Because rates currently are not adjusted outside of a rate case proceeding, waiting until a project is completed and deemed “used and useful” can result in a substantial disincentive to invest in transmission facilities for utilities facing the financial burdens of expanding capacity requirements. For this reason, allowing CWIP or a portion of CWIP in rate base and permitting rate of return incentives are crucial to the success of an RTP.

²² See WestConnect <http://www.westconnect.com/planning_swat_rtf_finance.php>

Pre-approval mechanisms as described in the RTTF Finance Subcommittee Final Report can help support the credit quality of utilities that plan to build new transmission infrastructure for renewable generation. These mechanisms can enhance the predictability of cash flows and reduce the likelihood of disallowances. In the event that any costs incurred by the Companies associated with RTP that are not recovered in general transmission rates at FERC, these mechanisms will allow the Companies recovery from ACC jurisdictional customers.

TEP's base rates are frozen through December 31, 2012 under the Settlement Agreement approved by the Commission per Decision No. 70628. This constraint may necessitate some creative solutions that will help facilitate the expansion of RTPs.

The following are estimates of incremental effects to the Companies' customers based on preliminary cost projections of the Companies' proposed RTPs addressed herein. The following impacts apply to all UNS Electric and TEP retail jurisdictional customers.

V. IMPACTS TO RATEPAYERS.

- **Palo Verde to Pinal Central 500 kV Project:**

Estimated Cost: \$23 Million

Expected In-service date: 2013 (may be deferred)

Impact to Ratepayers: \$0.000248 (slightly more than two-tenths of a mill per kWh; one mill = one-tenth cent).

- **Pinal Central to Tortolita 500 kV Project:**

Estimated Cost: \$4 Million

Expected In-service date: 2013 (may be deferred)

Impact to Ratepayers: \$0.000043 (slightly less than one-tenth of a mill per kWh).

- **Apache to Saguaro / Tortolita 230 kV Western Upgrade Project:**

Estimated Cost: \$39 Million (Subject to change)

Expected In-service date: 2015 (tentative)

Impact to Ratepayers: \$0.000422 (slightly more than four-tenths of a mill per kWh).

Total impact for the three RTP projects would be \$0.000713 per kWh (approximately seven-tenths of a mill per kWh).

If additional subscribers buy into ownership, along with SWTC and TEP, in one of the 230 kV lines proposed in the upgrade of this line to a double-circuit 230 kV line, the rate impacts would be reduced.

VI. OTHER CONSIDERATIONS.

The three RTPs, taken together, have the potential to support renewable energy projects in excess of the Companies' RES requirement. Additionally, streamlining the line siting process is necessary to ensure that the Companies had the transmission capability to reach the quickly developing renewable markets in Arizona.

However, as noted earlier, the possibility exists that all of these RTPs could potentially change or be deferred until a later date when it is more economically feasible to construct them from a load serving capability perspective. A key consideration for the Companies will be to ensure that commitments in the form of renewable energy project developer participation agreements or transmission service agreements are in place before undertaking the obligation to construct any of the proposed RTPs.

Other large projects proposed for interconnection in eastern and southeastern Arizona may influence RTP decisions. The first of these is the SunZia Southwest Transmission Project ("SunZia"). SunZia is a double-circuit 500 kV line that will originate in central New Mexico at a proposed SunZia E station near Ancho, New Mexico and terminate at the proposed Pinal Central substation near Casa Grande, Arizona. It is being planned to provide New Mexico and Arizona additional access to renewable energy resources. TEP is currently an active participant in this project. If this project moves ahead within the next five years, The Companies will likely seek to revise the proposed RTPs or possibly expand on them. SunZia could increase import capacity from New Mexico by as much as 3,000 MW.

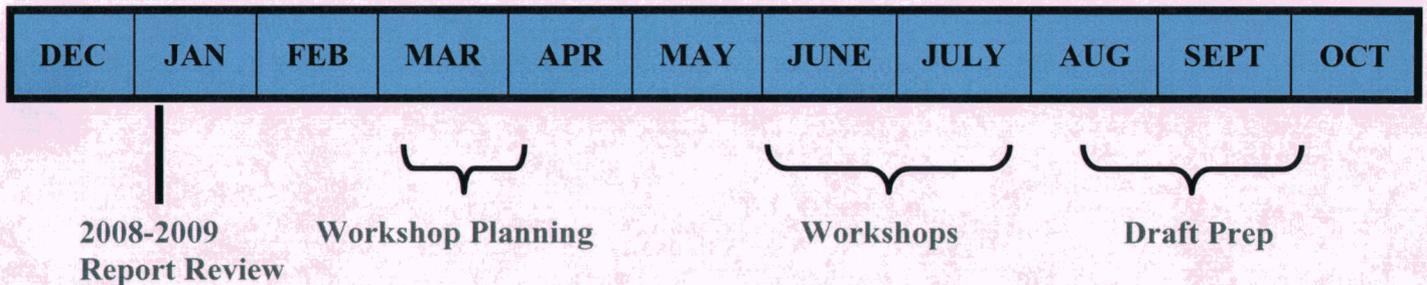
VII. CONCLUSION.

The Companies believe the three RTPs identified in this Report satisfy the compliance requirement in Decision No. 70635 and will facilitate renewable generation project development for Arizona.

Exhibit A – RTTF Timeline

RTTF TIMELINE

(1)	12/11/08	ACC issues Decision No. 70635
(2)	01/08/09	RTTF creates subcommittees: AARTIS and Finance
(3)	02/05/09	ARRTIS Meeting No. 1
(4)	02/18/09	Finance Subcommittee Meeting No. 1
(5)	02/19/09	ARRTIS Meeting No. 2
(6)	03/04/09	Finance Subcommittee Meeting No. 2
(7)	03/05/09	ARRTIS Meeting No. 3
(8)	03/19/09	ARRTIS Meeting No. 4
(9)	04/02/09	ARRTIS Meeting No. 5
(10)	04/15/09	Submit Interim Report to RTTF
(11)	04/16/09	ARRTIS Meeting No. 6
(12)	04/20/09	ACC Workshop No. 1
(13)	04/30/09	ARRTIS Meeting No. 7
(14)	05/14/09	ARRTIS Meeting No. 8
(15)	06/05/09	ACC Workshop No. 2
(16)	06/16/09	Finance Subcommittee Meeting No. 3
(17)	06-07/09	Work Group Develops and Subcommittee Reviews Draft Form of Order
(18)	08/11/09	Finance Subcommittee Meeting No. 4
(19)	08/15/09	Issue Draft Report to Subcommittee and initiate review
(20)	09/15/09	Issue Final Report to RTIF with Draft Form of Order
(21)	10/31/09	Utilities respond to Decision No. 70635: " ... plans and funding mechanisms shall be filed with the Commission no later than October 31, 2009"



2009 ARIZONA RENEWABLES

Active Generator Queue Listing

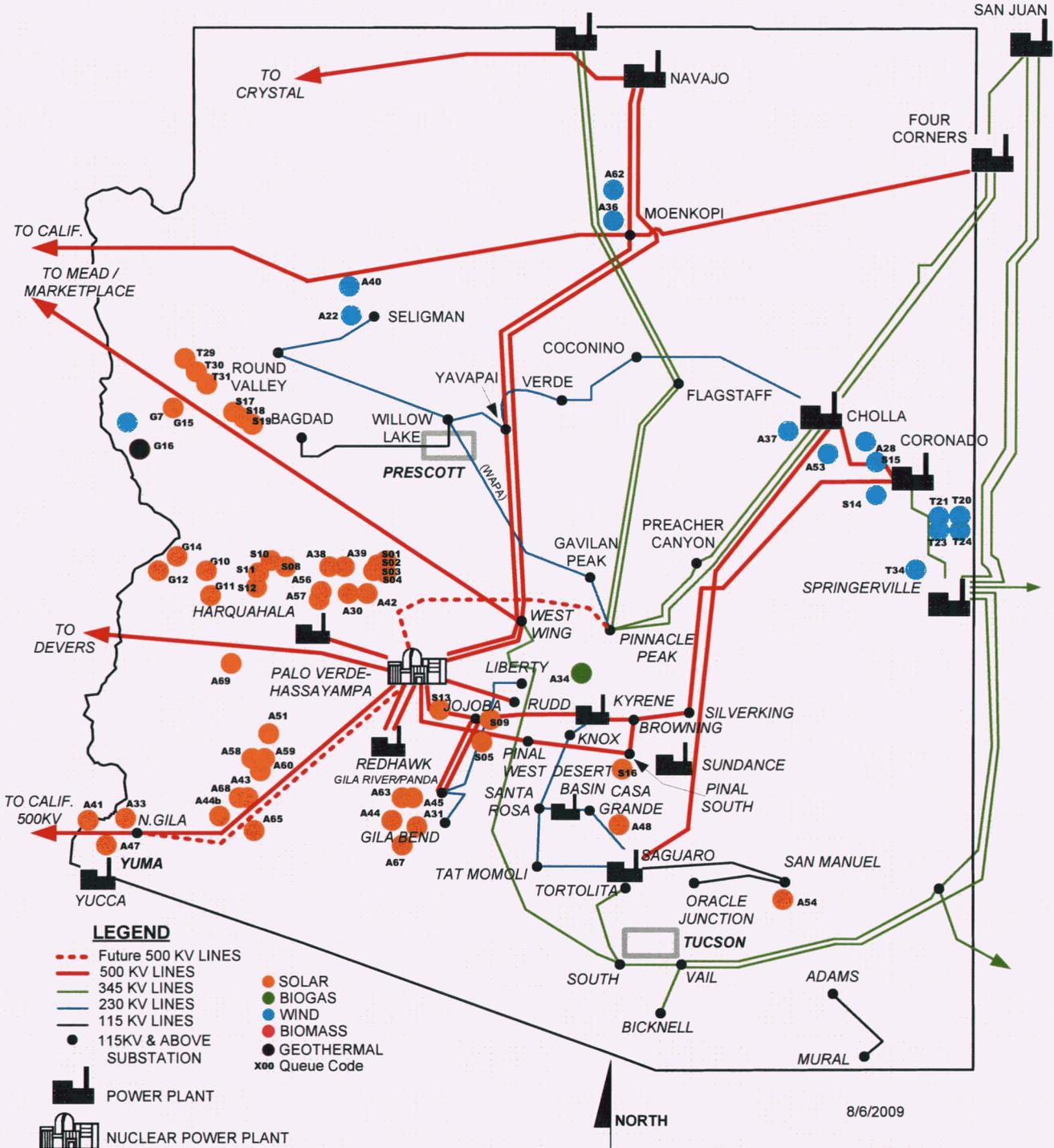
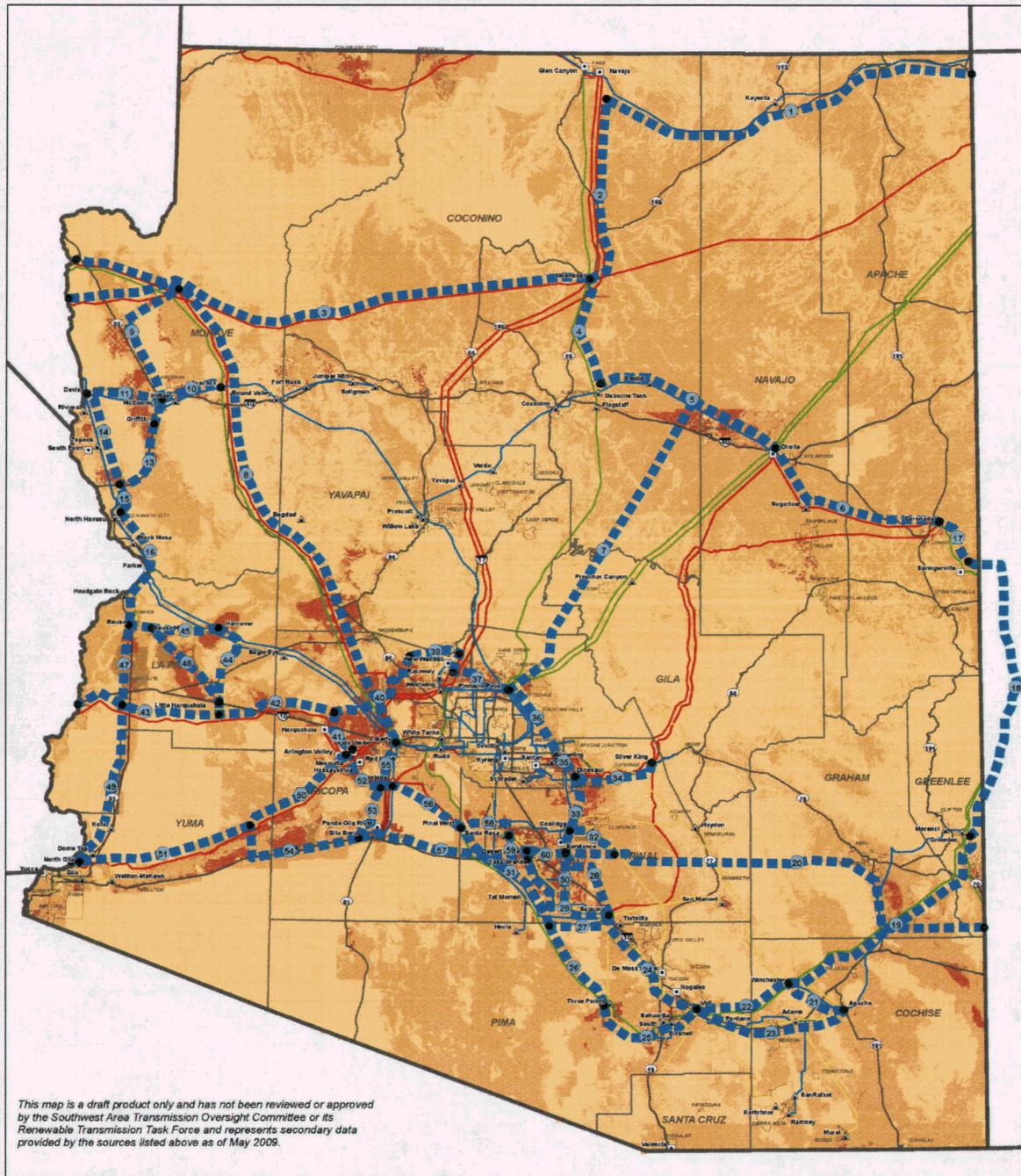


Exhibit C – Solar Sensitivity Map With Proposed Transmission



This map is a draft product only and has not been reviewed or approved by the Southwest Area Transmission Oversight Committee or its Renewable Transmission Task Force and represents secondary data provided by the sources listed above as of May 2009.

ENVIRONMENTAL EXCLUSION AND SENSITIVITY AREAS

- Exclusion - Includes areas greater than 5% Slope
- High Sensitivity
- Moderate Sensitivity
- Low Sensitivity

GENERAL REFERENCE

- Interstate/Highway
- Major Road
- City Boundary
- County Boundary
- State Boundary

UTILITY FACILITIES

- RTTF Proposed New Transmission/Upgrades
- 500kV Transmission Line
- 345kV Transmission Line
- 230kV Transmission Line
- 161kV Transmission Line
- 138kV Transmission Line
- 115kV Transmission Line
- Power Plant
- Pumping Plant
- Substation

SOURCES

ASLD, AGFD, BLM, NREL, USFS, USFWS, USGS, WREZ, 2009

ENVIRONMENTAL RESOURCE EXCLUSION AND SENSITIVITY AREAS (SOLAR)

ARTIS - ARIZONA RENEWABLE RESOURCE AND TRANSMISSION IDENTIFICATION SUBCOMMITTEE

DRAFT: June 18, 2009

