

**The Purpose and Need for the SunZia Southwest Transmission Project:  
SunZia's Relationship to the SouthWestern Power Group's Bowie Power Station**

**Norm "Mick" Meader, Cascabel Working Group, August 13, 2012**

In presenting the purpose and need for the SunZia Southwest Transmission Project, the SunZia Draft Environmental Impact Statement has failed to disclose the relationship between the SunZia Project and the SouthWestern Power Group's Bowie, Arizona, 1,000-MW natural gas-fired power plant. The Southwestern Power Group (SWPG) specifically proposed SunZia to provide transmission capacity for this yet-to-be-built power plant as a primary component of SunZia's purpose. Instead, the DEIS and SWPG have portrayed SunZia as a nearly pure renewable energy project with no relationship to this plant or SWPG's own interests.

Although part of SunZia's stated purpose is to provide transmission capacity for renewable energy development, a major complementary purpose of this project is to provide transmission capacity for this plant. This objective was clearly stated and discussed at meetings of the Southwest Area Transmission Regional Planning Group and is contained in both SWAT minutes and formal organizational presentations. These minutes and presentations are referenced on the following pages. While these show that part of SunZia's purpose was to address SWAT's renewable energy transmission objectives and reliability concerns, they also clearly show that SWPG proposed SunZia to serve its own power plant.

The Cascabel Working Group and others have informed the BLM of the project's origins several times, but the BLM did not incorporate this information into the SunZia Draft Environmental Impact Statement. This is critical information for the public to know and is needed to assess the project. The statement of purpose and need for the project should reflect what the proponents actually proposed it for and should not be altered to reflect an administration policy ideal, which appears to be what has happened.

The attachments to this introduction again provide this documentation using SunZia's own presentations and other legal documents. The following descriptions explain each illustration or document and give the source of each.

## DISCUSSION OF ILLUSTRATIONS AND DOCUMENTS

**1. Page 1. *Initial Map of Potential SunZia Route.*** Map showing hypothetical 500-kV transmission lines proposed by the Southwest Area Transmission Regional Planning Group (SWAT) to export New Mexico wind-generated electricity. In 2004 New Mexico Governor Bill Richardson asked SWAT to develop a plan to export New Mexico power in order to help develop the state's wind industry. In response, SWAT created a map with hypothetical routes for these lines, one of which passed through the Southwestern Power Group's permitted Bowie, Arizona, power plant.

SWPG saw the proposed line as an opportunity to provide needed transmission capacity for its plant and to expand the market for the plant's power. In the fall of 2006 SWPG proposed SunZia to provide this transmission capacity while accommodating potential renewable energy development in keeping with SWAT's original purpose. SWPG would never have proposed SunZia had SWAT not proposed this route through the Bowie plant location.

**Source:** "Report of Southwest Area Transmission 2004 Study Activities," prepared for the SWAT Oversight Committee, November 23, 2005. Available from [http://www.westconnect.com/filestorage/swat\\_activity\\_rpt\\_112305.doc](http://www.westconnect.com/filestorage/swat_activity_rpt_112305.doc).

**2. Page 2. *First Description of the SunZia Project.*** The following description of the SunZia Southwest Transmission Project is from the minutes of the October 16, 2006 SWAT meeting in which SWPG first formally proposed the project.

Two 500 kV lines out of Bowie, one going east, one going west. Will create transmission path from southern New Mexico to southern Arizona.

The Bowie power plant is proposed as the hub of the project with single 500-kV lines extending eastward and westward from the plant.

**Source:** "SWAT Meeting Minutes 10.18.06 Las Vegas." Available from [http://www.westconnect.com/filestorage/swat\\_mtg\\_min\\_101806.pdf](http://www.westconnect.com/filestorage/swat_mtg_min_101806.pdf).

**3. Page 3, 4 and 5. *Formal SunZia Project Description.*** A clear description of SWPG's vision for the SunZia Project was given in a presentation by SunZia on May 15, 2007 to the Western Electricity Coordinating Council. The project is described as follows:

1. Construction of approximately 150 miles of 500kV line from the proposed 600 MW IGCC Bowie Power Station near Bowie, Arizona, to the proposed Pinal South Substation, located near Coolidge, Arizona.
2. Construction of approximately 185 miles of 500kV line from the proposed Bowie Power Station to the existing Newman substation near El Paso, Texas.

SunZia is initially envisioned to provide an additional interconnection opportunity for the proposed Bowie Power Station as a 600MW IGCC. SunZia can provide a delivery path to

multiple markets versus a single interconnection location; both in southern New Mexico (and El Paso, Texas) and to southern Arizona.

SunZia will provide additional delivery options for the proposed Bowie Power Station (proposed as a 600MW IGCC) as well as significant renewable energy resource potential across the southern New Mexico and southern Arizona area.

In this description the Bowie Power Station is described as a 600-MW coal-fired power plant (IGCC) although it was initially proposed as a 1,000-MW natural gas-fired power plant. At this time the Bowie plant was briefly redesigned for coal because of soaring natural gas prices. Because of environmental objections, however, the plant was changed back to a 1,000-MW natural gas-fired plant, what it is planned as today.

**Source:** SunZia, “WECC Regional Planning Project Report on the Proposed SunZia Southwest Transmission Project,” May 15, 2007. This presentation is available at [http://www.wecc.biz/committees/StandingCommittees/PCC/TSS/Shared%20Documents/Projects%20Undergoing%20Regional%20Planning%20Rating%20Review/SunZia%20Southwest%20Transmission%20Project/SunZiaRPPR\\_Final\\_051507.pdf](http://www.wecc.biz/committees/StandingCommittees/PCC/TSS/Shared%20Documents/Projects%20Undergoing%20Regional%20Planning%20Rating%20Review/SunZia%20Southwest%20Transmission%20Project/SunZiaRPPR_Final_051507.pdf)

**4. Page 6.** *Discussion of Approximate Capacity Interest for SunZia.* This illustration identifies the Bowie Power Station as the only specific entity that would use SunZia. All other potential generation facilities that would use the project are non-specific and more speculative.

**Source:** Mark Etherton, “Presentation to Southwest Renewable Energy Conference for the Proposed SunZia Southwest Transmission Project,” August 1, 2007. Available at <http://www.swrec.org/2009/conf2007/docs/presentations/PP%20Etherton%20Mark.pdf>.

**5. Page 7.** *SunZia Original Study Area.* This illustration shows the configuration of the SunZia Southwest Transmission Project through at least May 23, 2008, presented at the 2008 Arizona Biennial Transmission Assessment meeting. This is the original project route map depicting the Bowie Power Station as the center interconnection point for the project.

**Source:** SunZia Southwest Transmission Project, Arizona Corporation Commission Biennial Transmission Assessment Workshop, Phoenix, AZ May 22 & 23, 2008. Available from <http://www.azcc.gov/Divisions/Utilities/Electric/Biennial/2008%20BTA/SunZia%20BTA%202008.ppt>.

**6. Page 8.** *Bowie Power Station–Willow Substation Corridor Map.* The Willow substation is the only grid interconnection for SunZia in Arizona other than the terminus at the Pinal Central substation. SunZia plans no other interconnections in Arizona. The proposed SunZia Willow substation, however, will be built with the Bowie power plant’s 345-kV Willow substation, designed to connect the plant to the existing regional power grid. SunZia would add 500-kV transformers here to connect with the existing regional power grid and the 345-kV lines tied to the plant, allowing the plant to use SunZia transmission capacity.

**Source:** Application for a revision to the Bowie Power Station–Willow Substation transmission corridor, “Exhibit B” (document page 11), submitted by Larry Robertson, October 8, 2008. Arizona Corporation Commission Docket No. L-00000BB-01-0118. Application available at <http://images.edocket.azcc.gov/docketpdf/0000089340.pdf>.

**7. Pages 9, 10 and 11.** *Opening up California Power Markets for the Bowie Power Station.* In this *Energy Prospects West* article, SunZia is clearly envisioned as opening up additional power markets for the plant.

SWPG is still lining up power purchase contracts for Bowie. And while the facility only needs a short line to tie into existing transmission owned by Tucson Electric Power, *the markets for its clean coal could blossom if the proposed SunZia Southwest transmission project is built.*

The SunZia line would extend 300 to 400 miles, depending on the participants. Its eastern terminus would likely be the Newman substation north of El Paso. Going west, it would link up with Salt River Project's approved, but not-yet-built Pinal West-Southeast Valley 500-kV line in Pinal County southeast of Phoenix.

Connecting to the Pinal West-Southeast Valley line would mean that *Bowie's clean coal and wind energy from New Mexico could travel on up to Palo Verde and from there to California.*

As noted earlier, the Bowie power plant was originally proposed as a 1,000-MW natural gas-fired power plant but briefly changed to being a 600-MW coal-fired power plant (IGCC) because of soaring natural gas prices. Because of environmental objections, the plant has reverted to being a 1,000-MW natural gas-fired plant.

**Source:** “Arizona IGCC Plant Would Test Terrestrial Sequestration,” *Energy Prospects West*, May 1, 2007. Available from <http://www.energyprospects.com/static/113-01.html>.

**8. Page 12 and 13.** *Excerpts from the Certificate of Environmental Compatibility for the Bowie Power Station.* In these excerpts, the Arizona Corporation Commission stipulates that construction of each of the units of the plant cannot commence without the SouthWestern Power Group first demonstrating that the transmission improvements needed to carry the power have been completed. This stipulation reads as follows:

Prior to commencing operation of a given power bloc, transmission facilities improvements necessary to deliver the full output of the power block to intended markets, as identified in the aforesaid technical studies, shall have been completed.

Although Tucson Electric Power Company's 345-kV lines will be able to carry some of this power, they are at capacity, and additional transmission capacity is needed to accommodate the full 1,000 MW of rated output from the plant. SunZia will fulfill this need and allow the SouthWestern Power Group to concretely demonstrate that it has sufficient transmission capacity to carry the full output of the plant. Although the Bowie plant was originally scheduled to have

its first 500-MW unit completed in 2005, this unit has yet to be built, and construction is now scheduled to begin after SunZia is permitted, assuming that the project is approved.

**Source:** Decision No. 64625, Arizona Corporation Commission Docket No. L-00000BB-01-0118, issued March 7, 2002. Available at <http://images.edocket.azcc.gov/docketpdf/0000027248.pdf>.

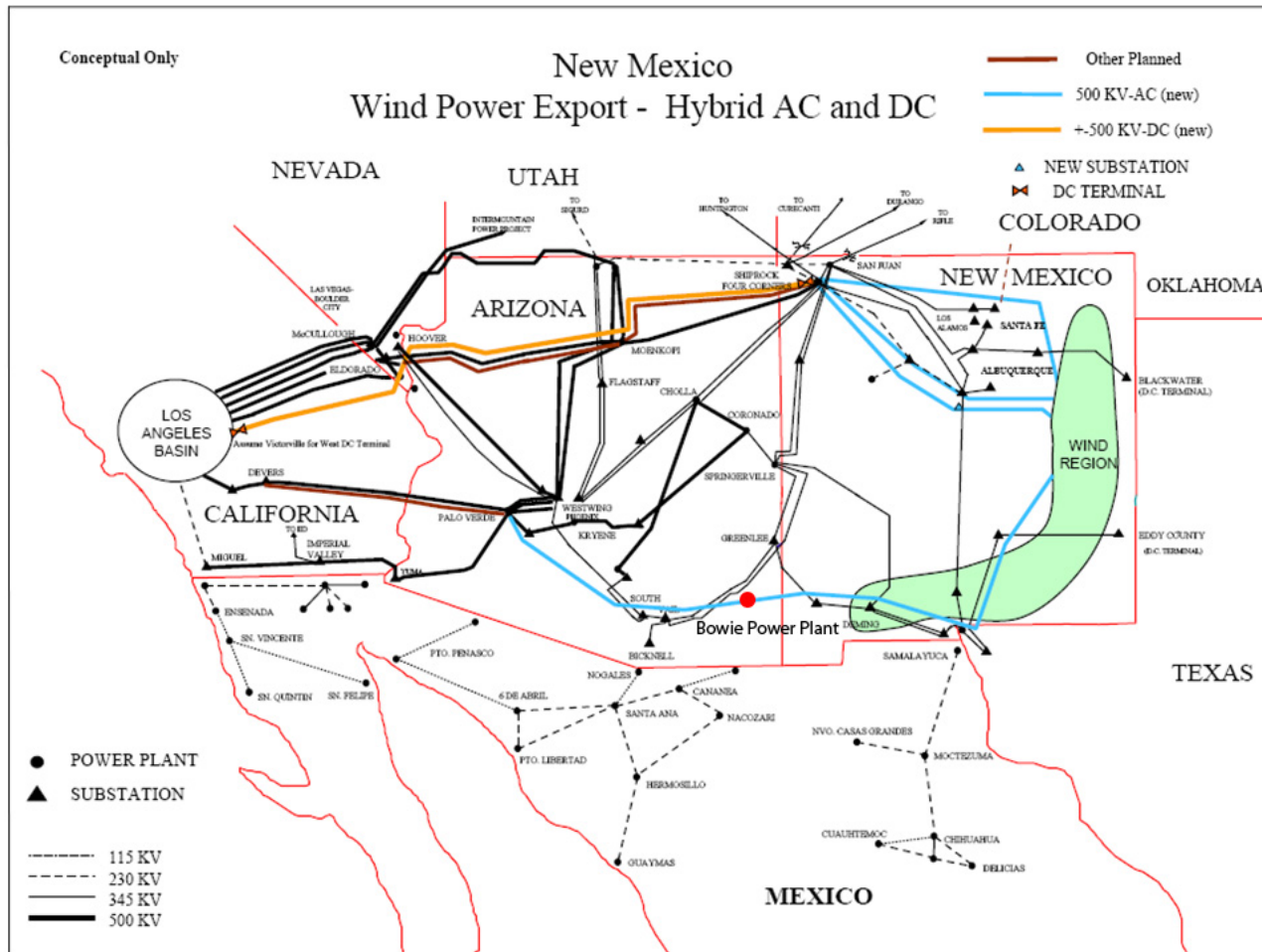
**9. Pages 14, 15, and 16.** *Petition to the Federal Energy Regulatory Commission for a Declaratory Order for SunZia.* In these pages excerpted from SunZia’s first application before the FERC, the Southwestern Power Group attempted to reserve 40% or 1,200 MW of SunZia transmission capacity for its own generation facilities without offering this capacity to other companies under existing open-access laws. The only generation facilities that SWPG has or intends to build is the Bowie Power Station. SWPG has no interest in renewable generation facilities and does not intend to build any to connect to SunZia. With this application, SWPG sought to reserve sufficient SunZia transmission capacity for the full output of the Bowie plant. The FERC denied the application on all counts because it violated all prior precedent for issuing a Declaratory Order. FERC’s ruling is as follows:

Concerns about open transmission access and fair rates for transmission customers led the Commission to turn down the SunZia petition as proposed. FERC determined that the project must allow for open access to transmission service without withholding transmission capacity from the market in a manner that is unduly discriminatory or preferential and at rates that are just and reasonable.

**Source:** SunZia Transmission, LLC, “Petition for Declaratory Order and Request for Expedited Action,” FERC Docket No. EL10-39-000, submitted January 29, 2010. Available at <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12258815>.

**10. Pages 17, 18, and 19.** *Review of Existing Transmission Capacity Available to the Bowie Power Plant.* Tucson Electric Power Company’s two 345-kV transmission lines between the company’s Springerville generating station and Tucson are the primary lines that were permitted for use with the Bowie power plant by the Arizona Corporation Commission (ACC). ACC documents, however, show that these lines are at capacity and have no available transfer capacity on them. Without available transfer capacity, TEP cannot sell transmission capacity to other power generators. TEP can purchase power from the SouthWestern Power Group, but this greatly limits the market for Bowie power and the amount of power that SWPG can generate. The full capacity of TEP’s double 345-kV lines is 1,500 MW, while the full planned output of the Bowie power plant is 1,000 MW. This demonstrates that additional transmission capacity is needed for the Bowie power plant to be fully built and used. SunZia would provide this capacity.

**Source:** Norm “Mick” Meader, “Transmission Needs for the Bowie, Arizona, Power Plant,” Cascabel Working Group, August 24, 2010. Available at <http://nmeader.com/sunzia/reports/Transmission%20Needs%20for%20Bowie%20Power%20Plant-09-20-10.pdf>.



SWAT's original conceptual map to export New Mexico wind-generated electricity. The southernmost 500-kV line that SWAT proposed passed through the SouthWestern Power Group's permitted Bowie power plant, prompting SWPG to propose SunZia to serve both the plant and SWAT's purpose.

Next combining and modifying, if needed, individual company plans together, Tom Isham of APS has been very helpful  
NERC and NAESB ATC Standards Drafting Groups.  
Plan is to pursue incorporating differences in Western Interconnection approach within the NERC and NAESB processes.  
Fallback position – a specific ATC standard is developed for WECC.

**Sun Zia Project:** (This appears to be an error - should be Bowie power plant)

Tom Wray reported.  
Located at the Bowie site which is already permitted, however, need to perform amendment to the CEC to revise permit from 1000 MW natural gas combined cycle unit to a 600MW gasified coal petroleum coke plant with natural gas fuel backup and to extend permit to 2011.  
Interconnection will be 345 kV interconnection into the Greenlee – Vail line.  
Generation may qualify for sale into CA under the new CA “no coal generation imports” law.

**Bowie Interconnection at 345 kV:**

Mark Etherton reported.  
Double circuit 345 kV line, 1000 MW.  
Technical studies have begun. Using prior CATS/SWAT study work on looping 500 kV line from Winchester into the Southeast Valley 500 kV line.

**Sun Zia SW Transmission Project:**

Mark Etherton reported.  
Two 500 kV lines out of Bowie, one going east, one going west.  
Will create transmission path from southern New Mexico to southern Arizona.  
Target in service - as early as 2011.  
Proposed as participation project.  
Open season participation letter expected end 2006/early 2007.  
Development agreement targeted mid 2007.  
Segments targeted to be permitted within 24-36 months.  
Southwest Power Group interested in 50% ownership.

**WestConnect:**

Charlie Reinhold reported.  
WestConnect approved objectives and procedures for biennial transmission planning on 8/24/06.  
The RFP for project management support of SWAT and CCPG duties is being developed.



## II. Project Description

The detailed plan of service for the proposed SunZia Southwest Transmission Project will be finalized by the SunZia participants over the next several months and documented in a more detailed Comprehensive Progress Report to be completed around December 2007. Currently, SWPG (and interests received to date) anticipates that SunZia will consist of the following major facilities:

- 1) Construction of approximately 150 miles of 500kV line from the proposed 600MW IGCC Bowie Power Station near Bowie, Arizona, to the proposed Pinal South substation, located near Coolidge, Arizona. A probable intermediate interconnection point (and transformation) between these two terminations is the existing Winchester substation, located near Benson, Arizona, approximately 50 miles west from the proposed Bowie Power Station. Winchester and Pinal South are part of the original Central Arizona Transmission System (“CATS”) EHV long range plan and has been developed for a future 500 kV interconnection.
- 2) Construction of approximately 185 miles of 500kV line from the proposed Bowie Power Station to the existing Newman substation near El Paso, Texas. A probable intermediate interconnection point (and transformation) between these two terminations is the existing Luna substation, located near Deming, New Mexico, approximately 100 miles east from the proposed Bowie Power Station.





### III. Compliance with Regional Planning Guidelines

This section provides information in response to each of the Regional Planning Guidelines with respect to the SunZia Project. The Regional Planning Guidelines are presented in bold, italic and how the Project's Regional Planning addressed each guideline is presented in normal text.

1. ***Take multiple project needs and plans into account, including identified utilities' and non-utilities' future needs, environmental and other stakeholder interests.***

SWPG initiated the Regional Planning Project Review Process and requested the formation of a RPRG on December 15, 2006 (Attachment B). The respondents expressing interests in RPRG are included in Attachment C.

At the February 16, 2007 meeting of the RPRG (meeting notes are included as Attachment D); a request was made of the RPRG to provide their future projects or plans within the same region as the SunZia project. SunZia has made prior presentations at SWAT and STEP sub-regional transmission planning groups (the presentations can be found on the SunZia website, [www.sunzia.net](http://www.sunzia.net)). SWAT is a sub-regional transmission planning group formed to provide an open forum where all interested parties are encouraged to participate in the planning, coordination, and implementation of a robust transmission system between New Mexico, Arizona, southern Colorado, western Texas, and southern Nevada. STEP is also a sub-regional transmission planning group; however, with emphasis on the region west of the SWAT footprint towards southern California.

SunZia does not conflict with or preclude other entities from pursuing their projects or plans. As discussed in this Report, SunZia is being evaluated as a regional participation project promoting regional access and development of renewable and thermal resources, increasing reliability between the southern New Mexico and southern Arizona transmission systems, and the potential for additional import capability to the central Arizona transmission system.

2. ***Cooperate with others to look beyond specific end points of the sponsors' project to identify broader regional and subregional needs or opportunities.***

SunZia is initially envisioned to provide an additional interconnection opportunity for the proposed Bowie Power Station (proposed as a 600MW IGCC). SunZia can provide a delivery path to multiple markets versus a single interconnection location; both in southern New Mexico (and El Paso, Texas) and to southern Arizona. SunZia would form an integral part of the ongoing proposal by the SWAT AZ-NM and SATS ("Southern Arizona Transmission Study") technical working group to establish a transmission path for importing renewable energy from the southern and eastern New Mexico area to Arizona. Thus far, the interest in SunZia has been from 1,500-3,000MW for delivery of the renewable and thermal resources throughout the SunZia proposed study area, as well as some potential local load serving opportunities. Historically, the Four Corners region between New Mexico and Arizona has been the primary delivery path; SunZia will serve



as an alternate delivery path and hence increase the reliability of the regional transmission system. SunZia will continue to cooperate with others as a participant project and provide status updates to joint or combined meetings such as SWAT, STEP, and other WECC Project Review Group meetings.

**3. *Address the efficient use of transmission corridors (e.g., rights-of-ways, new projects, optimal line voltage, upgrades, etc.).***

SunZia will require the use of a combination of existing rights-of-ways (“ROW”) and new ROW. A Preliminary Environmental Screening analysis was performed for the SunZia study area to determine potential opportunities for the SunZia transmission corridor. Much of the study area includes following existing transmission facilities and corridors identified on preliminary maps released in 2006 for the proposed with the Department of Energy (“DOE”) West-Wide Energy Corridor Programmatic EIS process review. DOE recently announced a Southwest Area National Interest Corridor; this corridor includes seven counties in southern California, one county in southern Nevada, and three southwestern counties in Arizona. The DOE’s Southwest Area National Interest Corridor is located west of and adjacent to the SunZia area of interest.

**4. *Identify and show how the project improves efficient use of, or impacts existing and planned resources of the region (e.g., benefits and impacts, transmission constraint mitigation).***

SunZia will provide additional delivery options for the proposed Bowie Power Station (proposed as a 600MW IGCC) as well as significant renewable energy resource potential across the southern New Mexico and southern Arizona area. Historically, the Four Corners west transmission system has been limited due to the significant amount of thermal resources in the Four Corners area; new resources located north and east of the Four Corners area are expected to continue the congestion west of Four Corners. SunZia is expected to provide congestion relief by adding additional transmission capacity across the New Mexico and Arizona transmission system.

**5. *Cooperate with Regional Planning Review Group members in determining the benefits and impacts due to the project.***

SunZia will continue its cooperation with the SWAT technical working group and the RPRG in its technical study efforts and also in the preparation of the Project’s Comprehensive Progress Report.

# Development Interests



# SunZia Southwest Transmission Project



- ◆ Discussion of approximate capacity interest, start and end points, approximate need date, etc.

Company Name	Capacity Interest	Approximate Need Date	Probable Interconnect Point(s)	Probable Interconnect Termination
SunZia Southwest	600 MW	2012/2013	Bowie P.S.	El Paso Winchester Pinal South
Others (6 – 10)	1500MW to 3000MW	2011/2015	Eastern NM SW NM	Various

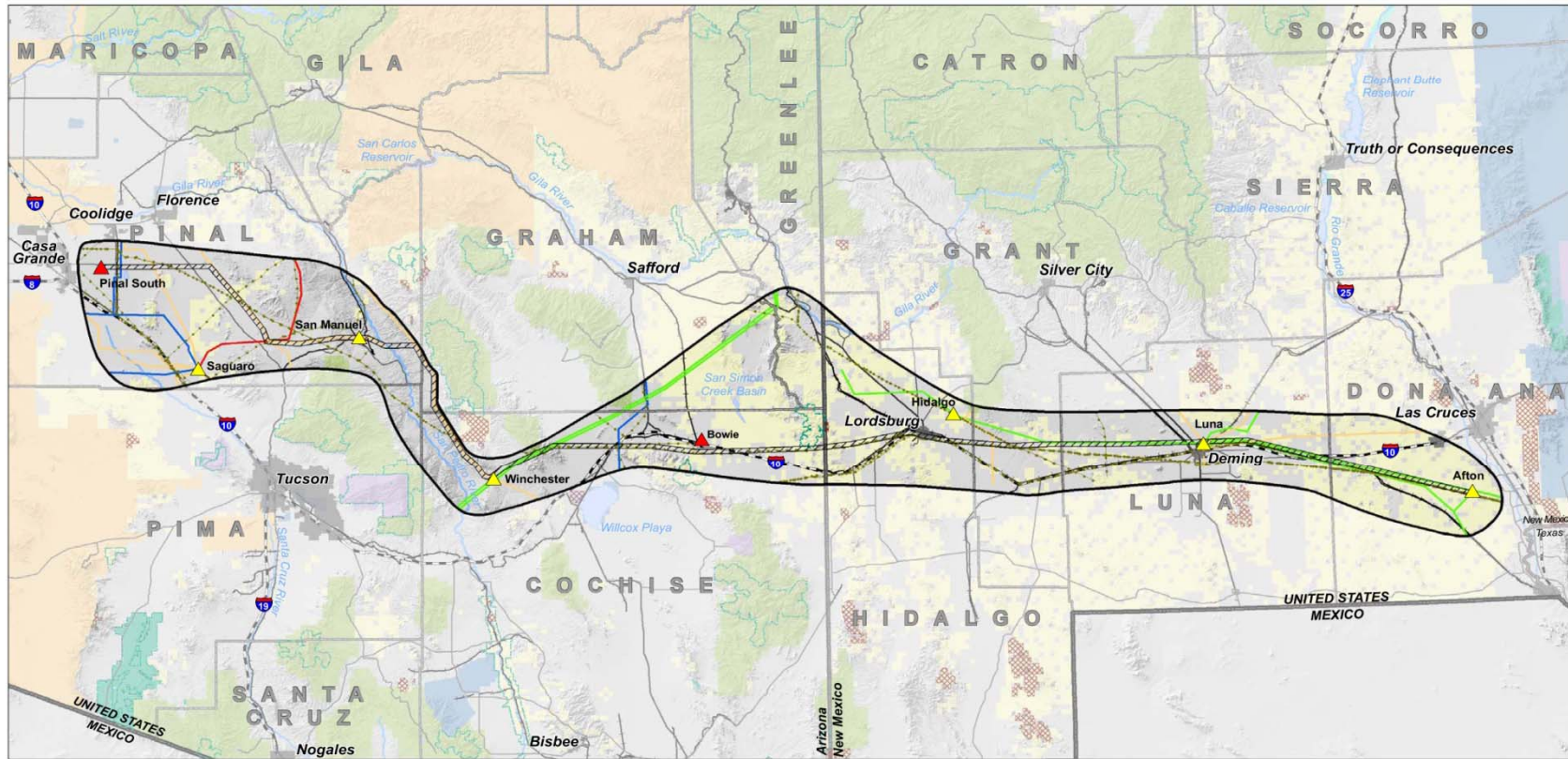
Should read SouthWestern Power Group

The Bowie power station was briefly downsized from a 1,000-MW natural gas-fired plant to a 600-MW coal-fired plant, but because of objections it has since been resized to its original specifications.

# Project Study Area (Original)



# SunZia Southwest Transmission Project



### LEGEND

#### Project Features

- Study Area
- Proposed Transmission Line Corridor
- ACEC
- Wilderness Area

#### Land Ownership

- Bureau of Land Management
- Indian Reservation/Bureau of Indian Affairs
- U.S. Forest Service
- National Park Service
- Department of Defense
- U.S. Fish & Wildlife Service
- State/Private/Other

#### Utilities

- Substation (Existing)
- Substation (Proposed)
- 500 kV Transmission Line
- 345 kV Transmission Line
- 230 kV Transmission Line
- 138 kV Transmission Line
- 115 kV Transmission Line
- Pipeline (6" Diameter and Above)

#### Reference Features

- International Boundary
- State Boundary
- County Boundary
- Interstate
- State Highway/Major Road
- Railroad
- River/Stream
- Lake/Reservoir
- Urban Area



## SunZia Southwest Transmission Project

Preliminary Plan of Development

Figure 1

September 2007

Sources:  
StreetMapUSA, 2007; BLM, 2004; USGS, 2005;  
EPG, Inc., 2007

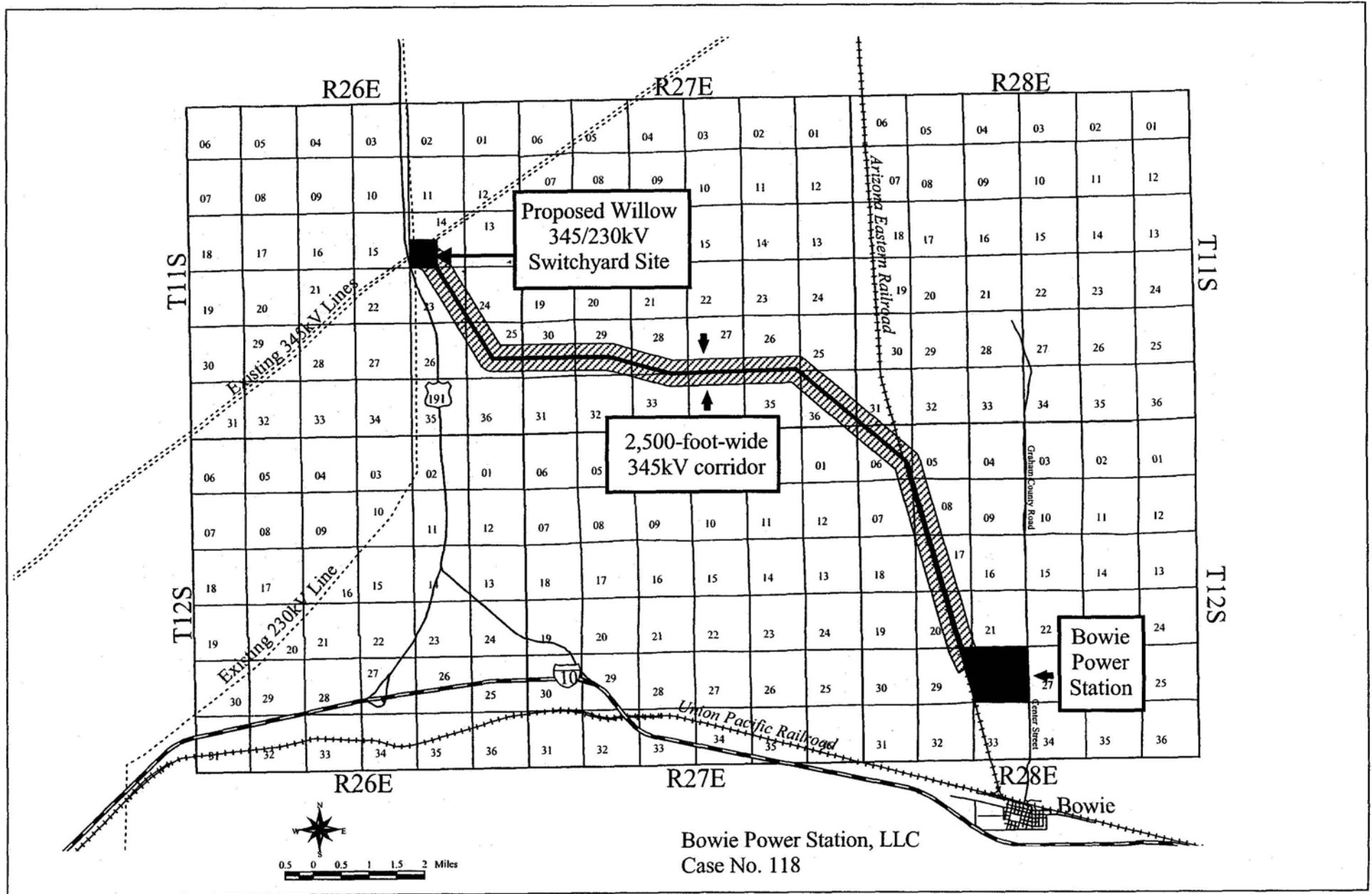


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Confidential - Not for Distribution  
Note - Substation and transmission line locations are schematic and do not necessarily represent precise locations.

# Bowie 345kV Transmission Line General Corridor Map

EXHIBIT B



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## 1] Arizona IGCC Plant Would Test Terrestrial Sequestration

The board of supervisors in Cochise County, Ariz., will vote this month on whether to approve zoning changes to enable the Southwest's first integrated gasification combined-cycle plant to go forward in the town of Bowie, about 100 miles east of Tucson. At a work session April 16, proponents of the 600-MW project extolled its virtues, which would include testing new ways to sequester carbon dioxide using commercial greenhouses.

Phoenix-based Southwestern Power Group notified the Arizona Corporation Commission April 4 that it will file an application for a certificate of environmental compatibility for the Bowie Power Station within 90 days and said the plant would use coal from New Mexico, Wyoming's Powder River Basin and Colorado. If all goes well, Bowie would be in operation by 2013.

The Bowie plant's site is unsuitable for underground CO<sub>2</sub> sequestration, so its developers have been exploring terrestrial alternatives.

"We are considering setting aside a few hundred acres on the site for an R&D park to look at how CO<sub>2</sub> sequestration can stimulate plant and seed growth," Ian Calkins, project spokesman, told *Energy Prospects West*.

SWPG is also exploring partnerships with commercial interests, notably Eurofresh Farms, the leading year-round producer and marketer of greenhouse tomatoes in the country, located in nearby Willcox, Ariz.

Dr. Gene Giacomelli, director of the University of Arizona's Controlled Environment Agriculture Center, has been working with SWPG on CO<sub>2</sub> sequestration possibilities.

"The only true way to sequester CO<sub>2</sub> on land is to have plants photosynthesize it," he said. Giacomelli thinks that "millions of seedlings" could be grown in greenhouses adjacent to the power plant and periodically transplanted into forests.

His center at the University of Arizona did a study that showed if 10 acres of greenhouses were used to grow seedlings that resulted in 20,000 acres of forest trees being planted each year, those trees could sequester half the CO<sub>2</sub> the Bowie plant would emit.

"That is a reasonable number of acres for this power plant, so what is needed would be the commitment over the life of the plant to grow these woody trees from seedlings," Giacomelli told *Prospects*.

Another way to make the Bowie project "greener," he said, is for the greenhouse-growing tomatoes on site to use heat and CO<sub>2</sub> from the plant. Giacomelli's center is working on ways to produce tomatoes with higher lycopenes, which may have health benefits.

"It appears the IGCC process can produce 'relatively clean' CO<sub>2</sub>, and we can test how that works out for growing tomatoes and other crops," Giacomelli said. "My goal is to make sure we have enough electricity in Arizona. If we are going to produce 600 MW of power, let's see if we can do it better with a clean coal technology. By teaming up with a power plant, we can try to make its negatives more positive."

SWPG was denied tax credits from the U.S. Department of Energy under the Energy Policy Act, but the company plans to reapply, Calkins said.

**SWPG is still lining up power purchase contracts for Bowie. And while the facility only needs a short line to tie into existing transmission owned by Tucson Electric Power, the markets for its clean coal could blossom if the proposed SunZia Southwest transmission project is built.**

**The SunZia Southwest project, also sponsored by SWPG,** is an outgrowth of work done by the Southwest Area Transmission (SWAT) planning group. The proposed 500-kV line would run between southern New Mexico and southern Arizona and provide at least 1,200 MW of new capacity.

"SunZia will help facilitate renewable energy deliveries between the two states," said project manager Mark Etherton. "Like the Tehachapi Valley in California, the area has all this potential for renewables, but transmission is lacking. SWPG was willing to step up and see if there was interest in building this line, and now the project has taken on a life of its own."

SWPG put out a solicitation for participation in the new line in December, and according to Calkins, there are 30 interested parties. Etherton said they hope to complete negotiations for the development agreement by July 1, to be followed by an open transmission planning process.

The SunZia line would extend 300 to 400 miles, depending on the participants. Its eastern terminus would likely be the Newman substation north of El Paso. Going west, it would link up with Salt River Project's approved, but not-yet-built Pinal West-Southeast Valley 500-kV line in Pinal County southeast of Phoenix. That facility is scheduled to be operating in 2011.

**Connecting to the Pinal West-Southeast Valley line would mean that Bowie's clean coal and wind energy from New**

**Mexico could travel on up to Palo Verde and from there to California.**

"I hope this line will help create a wind power superhighway," Craig Cox, director of the Interwest Energy Alliance, told *Prospects*.

"In most of these states, the prime potential windy land has been locked up by developers, but transmission is needed to access the market," Cox said. "Diversity of fuel sources is important -- with SunZia, we are looking at transmitting wind from eastern New Mexico, solar from the Arizona desert and geothermal from various states."

The next milestone for SunZia is to complete the development agreement. Permitting should begin in January 2008. SWPG's goal is to start construction in 2010 and have the line in service by 2012 [**Susan Whittington**].

**More information:**

**Bowie Power Station**

**SunZia Transmission Line**





0000027248

*Docket*

Arizona Corporation Commission

**DOCKETED**

MAR 07 2002

**BEFORE THE ARIZONA POWER PLANT  
AND LINE SITING COMMITTEE**

DOCKETED BY	<i>VL</i>
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IN THE MATTER OF THE APPLICATION OF  
 BOWIE POWER STATION, L.L.C., IN  
 CONFORMANCE WITH REQUIREMENTS  
 OF ARIZONA REVISED STATUTES 40-360.03  
 AND 40-360.06 FOR TWO CERTIFICATES OF  
 ENVIRONMENTAL COMPATIBILITY  
 AUTHORIZING CONSTRUCTION OF A  
 1,000 MEGAWATT NATURAL GAS-FIRED,  
 COMBINED-CYCLE POWER PLANT, 345 kV  
 AND 345 kV/230kV SWITCHYARDS, 345 kV  
 230 kV INTERCONNECTION AND RELATED  
 FACILITIES IN COCHISE AND GRAHAM  
 COUNTIES, ARIZONA. THE PROPOSED  
 POWER STATION SITE IS LOCATED IN  
 SECTIONS 28 AND 29, TOWNSHIP 12 SOUTH,  
 RANGE 28 EAST, TOWNSHIP 11 SOUTH,  
 RANGE 28 EAST, TOWNSHIP 11 SOUTH,  
 RANGE 27 EAST, AND TOWNSHIP 11 SOUTH,  
 RANGE 26 EAST, GILA AND SALT RIVER BASE  
 AND MERIDIAN

CASE NO. 118

Docket No. L-00000BB-01-0118

**(POWER PLANT)**

DECISION NO. 64625

The Arizona Corporation Commission ("Commission") has conducted its review, as prescribed by A.R.S. § 40-360.07. Pursuant to A.R.S. § 40-360.07, the Commission, in compliance with A.R.S. § 40-360.06 and in balancing 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 this state:

The Commission finds and concludes that the Certificate of Environmental Compatibility ("CEC") issued by the Arizona Power Plant and Transmission Line Siting Committee for Applicant's Power Plant is granted as modified and amended by this Order.

The Commission modifies Condition Number 2 with an additional provision as follows:

2(F). Make arrangements with local and county law enforcement to support their efforts to serve and protect the public and the Project and its employees.

1 utility planning criteria without reliance on remedial action such as reducing generator  
2 output, generator unit tripping or load shedding.

- 3 7. Prior to construction of any facilities, Applicant must provide the Commission with  
4 technical study evidence that sufficient transmission capacity exists to accommodate the  
5 full output of the plant and that the full output of the plant shall not compromise the  
6 reliable operation of the interconnected transmission system. The technical studies shall  
7 include a power flow and stability analysis report showing the effect of the plant on the  
8 existing Arizona electric transmission system. The technical study report(s) shall  
9 document both physical flow capability as well as contractual schedule capability to  
10 deliver full plant output to its intended market. In addition, Applicant must provide the  
11 Commission with updates to the information required in this condition not more than  
12 one year and not less than three months prior to commercial operation of the plant.  
13 Prior to commencing operation of a given power block, transmission facilities  
14 improvements necessary to deliver the full output of that power block to intended  
15 markets, as identified in the aforesaid technical studies, shall have been completed.
- 16 8. Applicant shall become and remain a member of the WSCC, or its successor, and file  
17 an executed copy of its WSCC Reliability Management System ("RMS") Generator  
18 Agreement with the Commission. Membership by an affiliate of Applicant satisfies this  
19 condition only if Applicant is bound by the affiliate's WSCC membership.
- 20 9. Applicant shall apply to become, and if accepted, thereafter remain a member of the  
21 Southwest Reserve Sharing Group or its successor, thereby making its units available  
22 for reserve sharing purposes, subject to competitive pricing.
- 23 10. Applicant shall continue to participate in good faith in state and regional transmission  
24 study forums to identify and encourage expedient implementation of transmission  
25 enhancements, including transmission cost participation as appropriate, to reliably  
26 deliver power from the Project throughout the WSCC grid in a reliable manner.
- 27 11. Applicant shall first offer wholesale power purchase opportunities to credit-worthy  
28 Arizona load-serving entities and to credit-worthy marketers providing service to those  
Arizona load-serving entities.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

SunZia Transmission, LLC

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Docket No. EL10-\_\_\_-000

**PETITION FOR DECLARATORY ORDER  
AND REQUEST FOR EXPEDITED ACTION**

Pursuant to Rule 207(a)(2) of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (FERC or Commission), 18 C.F.R. § 385.207(a)(2) (2009), SunZia Transmission, LLC (SunZia or Petitioner) hereby petitions the Commission for a declaratory order finding that: (i) each investor in SunZia may be allocated firm transmission rights representing 100% of the sponsor's pro rata investment in the transmission capacity of the SunZia Southwest Transmission Project (Project); three sponsors of the Project, SouthWestern Power Group (SWPG), ECP SunZia, LLC (ECP SunZia), and Shell WindEnergy Inc. (SWE), each an owner of membership interests in SunZia, may use up to 100% of their pro rata share of capacity on the Project to serve affiliated generators; and (iii) SWPG and ECP SunZia may pre-subscribe up to 100% of their 80% pro rata share of the Project's transmission capacity through long-term firm negotiated rate contracts.<sup>2</sup>

SWPG's only affiliated generator is the Bowie power plant, and SWPG is specifically asking to reserve SunZia capacity for it here. ECP has no affiliated generators. Shell Wind Energy could potentially have.

As further described below, the Project is a proposed approximately 460-mile 500 kV transmission line project that will connect primarily renewable generation in New

<sup>1</sup> In addition to the investors in Petitioner, Salt River Project Agricultural Improvement and Power District (SRP) and Tri-State Generation and Transmission Association, Inc. (TSGT) are sponsors of the Project. Neither SRP nor TSGT is a "public utility" within the meaning of section 201(e) of the Federal Power Act.

<sup>2</sup> The remaining sponsors of the Project, SRP, TSGT, and Tucson Electric Power Company—all existing load-serving entities with existing transmission systems—plan to incorporate their pro rata shares of the Project into their transmission systems and provide service pursuant to their respective Open Access Transmission Tariffs (OATTs).

**B. Non-Franchised IOU LLC Members May Use up to 100% of Their Pro Rata Share of Capacity on the Project to Serve Affiliated Generators**

Petitioner requests that the Commission allow the non-Franchised IOU LLC Members (SWPG, ECP SunZia, and SWE) to use up to 100% of their pro rata share of the Project to transmit the power of affiliated generators that are qualifying facilities (QFs) or eligible facilities of exempt wholesale generators (EWGs). To the extent that the line is used by affiliated generators, its use would be equivalent to a generation tie-line. The Commission has consistently allowed generators to own and operate generation tie-lines to connect with the grid, while maintaining their generation only status.

SWPG uses Shell Wind Energy here to deflect attention from its intention to use SunZia for its 1,000-MW Bowie natural gas-fired power plant, noted below.

Specifically, SWE intends to use the Project to transmit power generated by new renewable wind generation that SWE is developing in New Mexico to the western terminus of the Project in Arizona. SWPG's intended use, which is much greater, is not. This use is consistent with the principal purpose of the Project, to enable renewable resources in New Mexico to access western load centers. SWE currently intends to use 100% of its pro rata share of the Project (currently, 5%) for its own wind generation, but is also a potential customer for transfer capacity rights from one or more of the other LLC Members.<sup>21</sup>

Under Commission precedent, entities that own generation exempt from certain FERC regulation (i.e., QFs or eligible facilities of EWGs) may build interconnecting transmission lines as proprietary generation tie-lines that FERC considers to be part of

SWPG's 40% share = 1,200 MW of capacity. The Bowie power plant's capacity would be 1,000 MW.

<sup>21</sup> It is possible that other LLC Members will also use some or all of their portion of the Project for affiliated generation (e.g., SWPG's Bowie power plant, ECP SunZia-affiliated generation projects in early-stage development located in the vicinity of the Project). Such generation may also be renewable or may be combined-cycle gas-fired generation.

This petition attempts to call SunZia a generator tie line rather than a regional transmission system.

the QF or eligible facility of the EWG.<sup>22</sup> Such generation tie-lines are typically subject only to interconnection and transmission requests for any unutilized portion of the line pursuant to FPA sections 210, 211, and 212. However, FERC has required the QF or EWG to file an OATT where a third party requests service on the line.<sup>23</sup>

Here, Petitioner requests the Commission to extend its QF/EWG generation tie-line precedent to cover use of the Project to transmit affiliated generation. Thus, QFs or EWGs affiliated with LLC Members may use up to 100% of their affiliates' share of the Project to transmit power from their generators with no resulting jeopardy to their QF or EWG status. To ensure seamless access to unutilized capacity on the Project by third parties, any LLC Member that uses its portion of the Project for affiliated generation commits to file a separate OATT (to the extent it does not already have one), which will allow third parties to request transmission service over unutilized capacity generally in the same manner as will be allowed by OATTs filed by the other non-Franchised IOU LLC Members.<sup>24</sup>

**C. SWPG and ECP SunZia May Allocate Up to 100% of Their Pro Rata Share of the Project's Transmission Capacity Through Pre-subscribed Negotiated Rate Contracts**

Petitioner requests that SWPG and ECP SunZia be allowed to enter into long-term firm transmission contracts for up to 100% of their pro rata shares of the Project in

<sup>22</sup> See e.g., Oxbow Geothermal Corp., 67 FERC ¶ 61,193 (1994); Termoelectrica U.S., LLC, et al., 102 FERC ¶ 61,019 (2003); see also 18 C.F.R. § 292.101(b)(1); Aero Energy, LLC, 115 FERC ¶ 61,128 (2006).

<sup>23</sup> See Oxbow Geothermal Corp., 67 FERC ¶ 61,193 (1994); see also PSEG Energy Resources and Trade, et al., 123 FERC ¶ 61,001, at P 26 (2008); Docket Nos. ER09-666-001, et al. (Letter Orders issued June 15, 2009).

<sup>24</sup> Petitioner anticipates the availability of interruptible capacity (especially if the generators are wind-powered) over these shares of the Project. In addition, these shares may have extra capacity available to third parties while the affiliated generation is being built out. See Milford Wind Corridor, LLC, 129 FERC ¶ 61,149 (2009).



Group of transmission capacity means that TEP would at times have to limit the power it uses from its own Springerville generating stations.

At the most, TEP's two lines are each capable of carrying 750 MW of power, or a total of 1500 MW. Their actual capacity is presumably less. This compares with a maximum generating capacity at the Bowie power plant of 1000 MW. While the full power-carrying capacity of these lines is approached only during peak demand, it is apparent that when this capacity is reached that they cannot carry any power from the Bowie plant. In addition, a measure of unused capacity must be reserved in case one of the TEP lines fails, further limiting the Bowie power plant's access to transmission. Peak generating capacity at the Bowie plant would in itself not be reached until peak demand required it, and at that point, the plant could not deliver any power to the grid without TEP significantly limiting its own power transmission. The Southwest Transmission Cooperative's 230-kV line, which intersects TEP's 345-kV lines at Willow, could carry some power, but the line's transmission capacity is much smaller and could not accommodate significant Bowie power, especially with the line's current transmission commitments.

While the Bowie power plant would provide additional stability to TEP's and SWTC's power grids, the full capacity of this plant cannot be used without building additional transmission capacity. The most economical solution to do this would be to build single 500-kV lines away from the power plant. This size of line could carry the maximum power that the Bowie plant could generate. For the owners of the plant to have full market availability, i.e., to sell power to California as Tom Wray of SunZia has indicated<sup>2</sup>, this 500-kV line would need to reach the southeast Phoenix area to connect with that part of the electrical grid that services California.

While SunZia denies that the Bowie power plant in any way depends upon the SunZia Transmission Project, the full capacity of the plant cannot be utilized without either using the project's lines or building new lines to carry the power. The plant's power generation is greatly limited by having to compete with TEP's own transmission needs and cannot be fully utilized without additional transmission capacity. Delivery of power from the Bowie plant depends largely upon TEP's good graces, although the Federal Energy Regulatory Commission could require TEP to provide enhancements to its transmission system to facilitate it. It is unclear why the Arizona Corporation Commission did not fully take this into consideration in its decision to approve the plant.

Although transmission capacity built by other operators (TEP, SWTC) will undoubtedly grow in southern Arizona independently of the Bowie power plant's needs, the full use of the plant's eventual capacity still appears to require at least one extra-high-voltage transmission line dedicated to delivering power from the plant.

#### **A. Definition of Available Transfer Capacity (ATC)**

For market participants, *ATC is essentially a measure of unused transmission that a transmission provider can offer for sale pursuant to Order Nos. 888 and 889.*

Transmission providers sell transmission service to customers in the form of transfer capability. Transfer capability is the measure of the ability of the interconnected electrical system to move electric energy reliably from one point to another and is limited by,

among other things, the capacity either of equipment (such as transformers or transmission circuits) or interfaces (one or more circuits). *ATC is the amount of transfer capability still available for sale after all existing uses are accounted for.* Transmission providers calculate ATC by subtracting existing transmission commitments, transmission reserve margin, and capacity benefit margin from total transfer capability.

(This definition taken from the Federal Energy Regulatory Commission’s “Information Requirements for Available Transfer Capacity,” dated May 27, 2005, Docket No. RM05-17-000.)

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<sup>1</sup> *Arizona Renewable Transmission Task Force BTA Response*, by Peter Krzykos, Chairman of SWAT RTTF, BTA Workshop, May 22-23 2008, available from [http://www.congestion09.anl.gov/documents/doc/AZCC\\_BTA\\_Response\\_on\\_Renewables\\_FINAL1\\_4.pdf](http://www.congestion09.anl.gov/documents/doc/AZCC_BTA_Response_on_Renewables_FINAL1_4.pdf).

<sup>2</sup> Tom Wray in “SWAT Meeting Minutes 10.18.06 Las Vegas,” Accessed from [http://www.westconnect.com/filestorage/swat\\_mtg\\_min\\_101806.pdf](http://www.westconnect.com/filestorage/swat_mtg_min_101806.pdf), September 16, 2010.