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Bureau of Land Management
SunZia Southwest Transmission Project
PO Box 27115
Santa Fe, New Mexico, 87508-0115

Subject: Review Comments on the Draft Environmental Impact Statement and Resource Plan Amendments for the SunZia Transmission Project

References:
(a) Draft Environmental Impact Statement and Resource Management Plan Amendments for the SunZia Transmission Project (DES 12-26) of May 2012 (BLM/NM/PL-12-07-1793)
(b) US Department of Interior, Bureau of Land Management, New Mexico State Office, letter of 11 May 2012
(c) *Federal Register, Vol. 77, No. 103*, Tuesday, 29 May 2012 pp. 31637-31640, Notice of Availability of Draft Environmental Impact Statement for the SunZia Southwest 500 kV Transmission Line Project in New Mexico and Arizona, and Prospective Draft Land Use Amendments.

Attachments:
(1) Marshall Magruder, "Scoping Comments on the Southline Transmission Line Project (DOE/EIS-0474)" of 4 June 2012.
(2) Bonneville Power Administration, "Living and Working Safely Around High-Voltage Power Lines", available at www.transmission.bpa.gov/LanCom/Real_Property.cfm

1. **Summary.**

This letter contains Review Comments on the Draft Environmental Impact Statement and Resource Plan Amendments (Draft EIS) for the SunZia Transmission Project reference (a) in response to references (b) and (c) due 22 August 2012 submitted by Marshall Magruder.

He was appointed to the Joint Santa Cruz County (Arizona) – City of Nogales Energy Commission in 2000, initially elected as the Vice-Chairman, and served as the Energy Commission until 2008. He has been active as an intervener in several Arizona Power Plant and Transmission Line Sting Cases, nominated to be a member of this Committee; participated as an intervener in electricity, natural gas, water and wastewater rate cases before the Corporation Commission and served on Congresswoman Gifford's Solar Energy Task Force; and coordinated and managed the First Santa Cruz County Solar EXPO.

There are serious issues with this project because of cumulative actions with other related transmission projects for "renewable" energy transmission from wind sources in eastern New

Mexico and potential solar resources in both states. Competing and duplicative, and somewhat redundant, projects are now before the New Mexico BLM Office that must be compared in order to efficiently use resources including taxpayer's funding for federal projects sponsored by the Western Area Power Administration. Further, four of the five proposed SunZia routes in Arizona are new corridors and through valleys with critical environmental impacts to the agriculture, tourism, and astronomy industries and, most importantly, to the rural character and quality of life for those presently living there. A fifth Arizona route is through Tucson along existing corridors.

The SunZia Project presently proposes TWO sets of structures. No rationale was given why one tower set with double-circuits cannot be used with significantly narrower rights of way and with less environmental impacts at significantly lest cost.

Serious consideration must be included in the EIS, as a minimum, as an Alternative, to consider use modern Aluminum Conductor Composite Reinforced (ACCR) conductors that are lighter, smaller and stronger requiring fewer structures at lower costs as described in Enclosure 3 to Attachment 1 of these comments.

Direct Current (DC)-only transmission was not considered an Alternative. Most renewable sources initially generate DC electricity, thus losses of conversion can be eliminated.

A single right-of-way (ROW) with two circuits on one row of towers MUST be considered as an Alternative, as it is very doubtful if TWO parallel ROWs will meet the approval of BLM or state siting authorities. The project must be redesigned with a single ROW Alternative.

It appears a subliminal project objective is to interconnect a proposed 1,000 MW Bowie generation plant to the grid. However, that plant is not in the best site with respect to existing transmission and natural gas infrastructures. IF the Bowie plant was sited with the Apache plant, then a systematic transition from coal to natural gas generation could occur with less total new infrastructure requirements including possible elimination of an expensive substation.

2. **Organization of these Comments**.

These comments consist of a Cover Letter, two Sections and Attachments.

This Cover Letter addresses serious environmental, systemic, and programmatic substantive issues that require actions and solutions to remove prior to issuance of a Final EIS. Mitigation, a process used when solutions to issues are not found, may have to be required in the Final EIS and enforced in language found in the Records of Decision (RODs) issued by federal land managers. Also, the Arizona and New Mexico line siting statutes and processes may require additional changes or mitigation actions to meet their requirements for siting this Project on state and private land. This Cover Letter has in:

Paragraph 3 contains a discussion concerning the "need" or requirements for the SunZia Transmission Project. This is the most critical issue or concern about this project because the

SunZia approach is not the only one readily available. Other Alternatives appear to be superior in various aspects. Until compared as an Alternative in a Supplemental "Combined" EIS provided and reviewed in according the NEPA public review processes for a SEIS, then the Final EIS should not be completed. See **Section 1** below.

Paragraph 4 and, as expanded in **Sections 1** and **Section 2 below**, contains a summary of major issues and concerns with this project that require resolution prior to the Final EIS.

a. Cumulative Actions of the SunZia Project with Competing Transmission Projects.
b. Renewable Energy Credits (RECs) Account for Renewable Energy Source.
c. Critical and Unintended Deficiencies and Environmental Impacts Caused by Cumulative Actions with
   Table 1 – Comparison of Capabilities and Characteristics of the SunZia, Centennial West and Southline Transmission Projects
d. Benefits of Direct Current (DC) versus Alternative Current (AC) Transmission.
e. Impacts of the Western, Eastern and Texas Grid Interconnection and Tres Amigas.
f. Comments on the Proposed SunZia Transmission Routes in Arizona.
g. Safety Impacts of Inducted Current in Parallel Structures Must be in Final EIS.
g. Public Review and Political Pressures Applied by SunZia proponent.

Paragraph 5 and Paragraph 6 are Conclusions and Recommendations in these Comments.

These issues and deficiencies are discussed in greater detail in two Sections that follow.

Section 1 – Areas of Significant Environmental Impacts NOT addressed in the DRAFT EIS.
Section 2 – Significant Comments, Conclusions and Recommendations in the DRAFT EIS

The referenced Attachments listed above are after Section 2 herein.

3. **<u>Lack of NEED or Requirements for the SunZia Project (Most Critical Deficiency)</u>**.

A review of Reference (a) shows serious and critical gaps of critical information necessary to establish the "need" or requirements for this project, especially in light of other proposed projects that will accomplish the same goals. Without a comparison of the cumulative transmission requirements and conduct of the essential trade-off studies, then isolated project evaluations will be suboptimal and will not provide the best solution. The BLM *NEPA Handbook*, in section 6.2, directs that even an EA "… shall include brief discussion for the need for the proposal…" and that "the purpose and need statement as whole describes the problem or opportunity to which the BLM is responding and what the BLM hopes to accomplish by the action."[1]

It is critical to note that Arizona Revised Statutes (A.R.S.) ¶40-360.06 mandates that the project ***<u>need</u>*** is essential decision criteria for siting a project. The "need" for the proposed project (not the need for a ROD) will have to be provided to the Arizona Power Plant and

[1] *BLM NEPA Handbook H-1790-1,* section 6.2, p. 35.

Transmission Line Siting Committee, with more than the speculative assumptions from this Draft EIS based on renewable energy portfolio standards for various states. Thirty percent of Arizona's renewable energy requirements are from local distributed generation sources. In general, local distribution generation does NOT require transmission lines.

The Draft EIS indicates that the "need" is for the federal government decision makers to "decide" about the actions that result from the project. These are the NEPA documentation requirements for an EIS but are not the "project's" requirements or needs.

4. **Summary of Issues and Major Concerns with the SunZia Project.**

a. Cumulative Actions of the SunZia Project with Competing Transmission Projects.

This issue concerns *deficiencies* due to the cumulative actions of the SunZia Transmission Project when compared to other viable, parallel and competing transmission projects that are under the same BLM New Mexico Office as the Lead Agency for accomplishment of the NEPA process. The "total cumulative" impacts of all these projects must be considered at one time and not on an independent project-by-project basis, as all will connect to only ONE transmission grid in the same general area. Each transmission project will have both direct and indirect impacts on the other transmission projects and may also have unintended consequences in other parts of the environmental spectrum, including significant cumulative impacts with electricity transmission, natural and human effects.

The excessive duplication in these projects, adds needlessly cost and resulting in additional environmental impacts. The SunZia Transmission Project duplicates or is redundant to existing and proposed transmission lines and elements of the following, among others, ongoing transmission projects being developed in various stages of the NEPA processes being created, developed, and evaluated in the same BLM NM Office. These include at least three very similar projects, all with competing goals. The first two are discussed later in Table 1.

(1) Western Area Power Administration's ***Southline Transmission Project.***
(2) Western Area Power Administration's ***Centennial West Clean Line Project***.
(3) The ***Tres Amigas*** AC/DC/AC Interconnection transformation station to unite national transmission between the Eastern Interconnection, Western Interconnection (WECC) and ERCOT Interconnection (e.g., Texas east of El Paso) for renewable electricity in New Mexico and West Texas to any of these three interconnections. Tres Amigas will use superconducting high voltage DC (HVDC) during this process with initial interconnections completed in 2016.[2]

These, and other projects being developed, meet the definition of "*cumulative actions*". The *BLM NEPA Handbook* defines *cumulative actions* as

> *"…proposed actions, when viewed with the proposed action,* potentially have *cumulative significant impacts related to one or more identified issues. Cumulative*

[2] See "North American Strategic Infrastructure Leadership Forum, 12 October 2011 slides at http://tresamigasllc.com/presentations-files.php

actions "should be discussed" in the same NEPA document (40 CFR 1508.25(a)(2)"[3]*.* [Emphasis added]

In the case of these three projects, all intend to use similar renewable energy sources in the same general area, in particular wind sources from Eastern New Mexico and solar sources in both Arizona and New Mexico. All three of these projects are neither necessary nor required to provide transmission services to meet the expected loads; however, all renewable energy derived electricity that *reaches* the "grid" will usually be sold with a Renewable Energy Credit (REC) tag.

Also the *BLM NEPA Handbook* on page 45 states:

"If the connected action is also a proposed BLM action, we recommend that you include both actions as aspects of a broader "proposal" (40 CFR 1509.23), analyzed in a single NEPA document." [Emphasis added]

As also stated in the *BLM NEPA Handbook* on page 45 we read:

"If the connected action is proposed by another Federal agency [Ed. such as DOE or FERC]*, you may include both actions as aspects of a broader proposal in a single NEPA document… Evaluate whether a single NEPA document would improved the quality of analysis and efficiency of the NEPA process, and provide a stronger bases for decision making."*

And in *BLM NEPA Handbook* (page 46) reads:

"If you do not include the connected action with the proposed action as aspects of a broader proposal analyzed in a single NEPA document, you much, as a minimum, demonstrate that you have considered the connected action in the NEPA document for the proposed action (40 CFR 1508.25). (i.e., describe the connected action and its relationship to the proposed action, including the extent to which the connected action and its effects can be prevented or modified by BLM decision-making on the proposed action.) In this case, a separate NEPA document would need to be prepared for the connected action. It would be useful to incorporate by reference portions of the NEPA document complete for the connected action, if available, into the NEPA document for the proposed action."

Conclusion. That additional analysis of the other ongoing NEPA processes that involve the same renewable energy sources and transmission must coordinated into a single document for the decision maker, in this case, the lead decision-maker is the BLM New Mexico Office for theses "connected action" projects.

Recommendation. That a Supplemental EIS be developed that considers each of these projects as Alternatives so that the BLM and other decision-makers can evaluate the direct, indirect and cumulative impacts of each alone or in various combinations so that the best long-term and final decision can be make.

[3] *BLM NEPA Handbook H-1790-1,* Glossary, page 130.

b. <u>Renewable Energy Credits (RECs) Account for the Renewable Energy Source</u>.

Most capacity estimates in this DRAFT EIS assume ALL renewable energy will be transported on High Voltage transmission lines. In fact, distribution lines are completely adequate for all but the largest, above 100 MW, generation sources. Removal of all projects with less than 100 MW from in Table 4-30 (Past, Present, Future, and Reasonably Foreseeable Future Activities within Cumulative Area of Analysis) of the DRAFT EIS (pages 4-254-266) and from Table 4-31 (Past, Present, Future, and Reasonably Foreseeable Future Project) (pages 4-267-268), show much less potential demand or "need" for high voltage transmission lines.

It is also noted, but omitted in the DRAFT EIS, that these renewable electricity credits (RECs) are sold when RE generated electricity gets to the grid. A "direct" path from New Mexico is not required for utilities in California to purchase RECs. This means RECs from NM can add MWs to the Grid and others, a thousand miles away, can use RECs to purchase the NW generated MWs. Electricity itself is the same no matter what the source of generation.

Therefore, direct linear transmission interconnections are not required to move RECs from NM/AZ to CA, as requested in this SunZia DRAFT EIS.

c. <u>Critical and Unintended Deficiencies and Environmental Impacts Caused by Cumulative Actions.</u>

(1) Critical unintended interactive deficiencies, including Native American impacts represented by the Tohono O'odham, Apache, Hopi, and Navajo Nations in Arizona and other sovereign nations and tribes in New Mexico, could lead to denial due to conflicts between the various applications.

(2) The above resultant NEPA (EIS) documents in process are not synchronized. There are overlapping conflicts and glaring omissions between them can easily lead to serious electrical, environmental, and legal difficulties in the future. Resolution of these interactive, cumulative and unintended consequences can only be resolved by simultaneously reviewing these projects, from a systemic and programmatic view, as they are not isolated, independent projects, in the same document as required in the *BLM NEPA Handbook*, referenced above.

(3) Resolution of these transmission line issue are more than just changes for this Final EIS. This DRAFT EIS must be changed to make such comparisons as Alternatives.

(4) In addition, coordination of all three Projects (SunZia, Centennial West, Southline) with transmission line siting processes in New Mexico and Arizona needs to be completed in parallel or just after the time the Record of Decision(s) are published in the *Federal Register*.

Table 1 below compares these three competing projects.

Table 1 – Comparison of the SunZia, Centennial West and Southline Transmission Projects Capabilities and Characteristics.

Capability or Characteristic	SunZia[4]	Centennial West [5]	Southline[6]
Maximum capacity	3,000 MW (AC only) to 4,500 (AC+DC) MW	3,500 MW (For 4,375 MW of wind power)	1,000 to 1,500 MW
Nominal Line Voltages	500 kV (AC) 500 kV (AC or DC)	±600 kV (DC)	230 kV (AC) 345 kV (AC)
Number of Circuits	2	1	2
Number of conductors	5 or 6 (each with several bundles)	2 (each with 3 or 4 subconductor bundles)	3 or 6
Number of towers	2 parallel rows of towers	1 row of towers	1 row of towers
Tower heights	100 to 175 feet 135 feet (typical)	100 to 180 feet 130 feet (typical)	90-170 feet (345 kV) 90-130 feet (230 kV)
ROW Width	400 to 1000+ feet (165-ft narrow/ckt)	150 to 300 feet 200 feet (typical)	150 (230 kV) to 200 (345 kV) feet
Typical Span	1,200 to 1,600 feet	800 to 1,400 feet	800 to 1,500 feet
Length	460 to 542 miles	878 to 919 miles	240 miles-345 kV and 120 miles-230 kV
Miles of New Transmission Line	530 miles	106 to 288 miles	117 miles
Miles of Existing Lines or Corridors	220 miles	590 to 813 miles	123 miles
Ratio of New miles to Total length	220/530 (Preferred Alternative) = ~42%	106/813 to 288/590 = 12% to 30%	117/240 = 49%
Number of substations	Up to 3 new substations	2 terminals (AC/DC/AC conversion stations)	10+ substations (Existing and new)
Terminal Points (East to West)	SunZia East, Lincoln County, NM to Pinal Central, Pinal County AZ	Santa Rosa, Guadalupe County, NM direct to Mira Loma, San Bernardino County, CA	Las Cruces, NM via Apache substation (Willcox, AZ) to Saguaro, AZ.
Project Status	Draft EIS review	Scoping in 2012-2013	Scoping nearly Complete
Initial Operations Date	2016 (1st AC line) ~2018 (2nd AC/DC line)	Early 2019	Early 2016
Estimated Cost	$1.5 Billion	$2.5 to $2.6 Billion	$550 Million
NEPA Lead Agency	BLM New Mexico	BLM New Mexico	BLM New Mexico
Project Website	www.blm.gov/nm/sunzia	www.centennialwestcleanline.com	www.blm.gov/nm/southline

[4] See www.blm.gov/nm/sunzia, for SunZia information, this DRAFT EIS.

[5] See www.centennialwestcleanline.com, Centennial West Clean Line Project "Standard Form 299 – Application for Transportation and Utility Systems and Facilities on Federal Lands", January 2011.

[6] See www.blm/gov.nm/southline, "Southline Transmission Line Project" April 2012.

d. Benefits of Direct Current (DC) versus Alternative Current (AC) Transmission.

There are many benefits to use DC for transmission that need to be considered and included. The differences between DC and AC have significantly different environmental impacts. A combination two-circuit AC + DC on one set of towers is the only viable option that could meet approval of the federal and state siting authorities. Two ROWs is not realistic in today's environment. Some environmental impacts for DC transmission include:

(1) No Electromagnetic Field (EMF) radiation that is associated with AC currents.
(2) Narrower right of ways. A critical factor for ROW width is amount of EMF radiation at the edge of the ROW.
(3) Smaller overall footprint with environmental impacts.
(4) More efficient transmission with less line energy lost to transport electricity.
(5) Higher reliability due to controlling flow that enhances system stability.
(6) Two, instead of three conductors, with resultant fewer or smaller transmission towers required for the project, thus having cost savings.
(7) Most renewable energy sources generate electricity initially as DC, and then conversion to AC can occur later in the process.

There are associated costs with DC when used for transmission that include:

(1) End point to end point transmission, which means, one cannot "tap" a DC line with substations, a complementary benefit of Southline Project AC transmission lines.
(2) The U.S. utility industry is much less familiar working with DC than AC transmission and thus erroneously assumes the risk of failure will be higher with DC than familiar AC processes and equipment.
(3) Conversion from DC to AC requires frequency synchronization in order to interconnect with the grid.

e. Impacts of the Western, Eastern and Texas Grid Interconnections and "Tres Amigas".

The "Tres Amigas" Project is not a transmission line project but a major AC to DC to AC conversion project. Both the SunZia and Centennial West Transmission Projects include DC components. Further, wind and solar generation are usually generated in DC and then converted later to AC with some loss due to conversion. It is feasible to avoid the initial conversion from AC to DC and use DC to the end terminal of the transmission line when it is then converted to AC for distribution.

The Tres Amigas Project is a new development with significant but understandable technological challenges; however, it will be the only location that will be able to transfer electricity between the three Interconnection Grids in our country. The critical "Tres Amigas" DC components are necessary because each of the three Interconnections (Western, Eastern, Texas) operate on their own AC frequency synchronization schedules.

f. Comments on the Proposed SunZia Transmission Routes in Arizona.

The comments below discuss the primary proposed routes in Arizona, in particular transmission routes in the vicinity of the proposed Willow substation and the eight major subroutes from Willow to the Pinal Central end terminal substation. The "preferred" BLM **ALTERNATIVE Subroute 4C2 is NOT acceptable** to this party and it also is NOT acceptable to the SunZia Transmission Project proponent for the reasons given the SunZia's Comment No. 1 to the DRAFT EIS.[7]

(1) Transmission Prior to Vicinity of the Willow Substation.

As proposed in my Scoping comments to the Southern Transmission project, found in Attachment 1 below, by upgrading and, over time, decommissioning, the existing Apache (near Willcox, AZ) coal-fueled generation station by the proposed Bowie natural gas transmission plant should be less costly, will have easier access by using existing utility electric and natural gas transmission corridors. This will obviously require changes in the proposed Alternatives before the proposed Willow substation. In fact, Willow would also be co-located at the Apache and Bowie generation plants.

(2) Transmission Prior to Vicinity of the Willow Substation to the Group Four Subroutes.

Avoidance of the Ft. Huachuca Electric Proving Ground is essential to meet the needs and requirements of approximately the 11,000 soldiers now stationed at that fort. This is the largest "business" with the most jobs in southern Arizona. Providing safety considerations and avoiding environmental and agricultural damage to the San Pedro Valley will eliminate four of these subroutes.

Subroute 4A, **North of Mt. Graham**, is easily rejected to the impacts on observatories and wildlife as primary reasons and was not selected by BLM or the Project proponent.

Subroute 4B, **Sulphur Springs Valley**, was proposed by the Project proponent for the valid rationale in its letter that is not repeated herein. This party agrees with the proponents letter, and if this line is constructed, then Subroute 4B appears to be the second best Alternative only if Sunroute 4C3 cannot be used.

Subroutes 4C1, 4C2, 4C2a, 4C2b, East and West San Pedro Valley, are NOT appropriate and, for the reasons and rationale expressed by the SunZia proponent, NONE of these San Pedro Valley routes should be considered. Further consideration of San Pedro Valley routes should be dismissed. There should be no further consideration of the BLM "Preferred Alternative" Subroute 4C2b.

Subroute 4C3, Tucson, will primarily use existing transmission line corridors and the proponent might consider interconnecting with Tucson Electric Power (TEP) to provide the additional power to makeup for the 'sink' conditions that now exist near peak load conditions. Further, electricity generated by potential renewable energy sources is preferred

[7] See SunZia letter, "SunZia Southwest Transmission Project's First Comment Letter on the SunZia Draft EIS, issued May 25, 2012, regarding Rate Group 4".

compared to the TEP's coal-fueled Sundt Generation Station. This is my **PREFERRED ALTERNATIVE** due to significantly reduced total environmental impacts compared to the others. Subroute 4C3 has two segments between the F8 and F11. The F8 segment is preferred when compared to the F11 due to F11 being a present transmission corridor.

g. <u>Safety Considerations due to Induced Electric Currents Must Be In the Final EIS.</u>

The safety considerations due other structures near transmission lines is critical as described in Attachment 2, *Living and Working Safely Around High-Voltage Power Lines*, issued by the Bonneville Power Administration. Every issue discussed in this Attachment is involved in this project. The "safe practices" include various uses in rights of way; avoidance of shock hazards in moving vehicles; by induced currents along ungrounded water irrigation systems; along underground pipes, telephone, TV and electric cables; along wire and electric fences; buildings near the ROW. Schools, hospitals and similar facility locations must be considered when siting transmission lines.

All the issues in Attachment 2 need to be included in the Final or a Supplemental EIS.

h. <u>Public Review and Political Pressures Applied on Decision Makers by SunZia.</u>

Last year SunZia representatives initiated a political fiasco in the Arizona state legislature to sidestep the statutory Arizona line siting process for the detailed siting on private and state land that was to avoid the public hearing process in this state.

The Arizona line siting process is a statutory-limited 180-day hearing process that reviews some impact areas not included in a Final EIS but in an Application for a Certification of Environmental Compatibility (CEC). The Final EIS will need to be considered by the Arizona Siting Committee so duplication of efforts is avoided. However, frequently, the EIS and CEC Applications <u>each say the other document pertains</u> when information is not in either. Any resultant "finger-pointing" of responsibilities are resolved in the sworn and written testimony given before the Arizona Siting Committee. An important concern is that both the Final EIS and CEC Application recommend same Preferred Alternative for siting on federal lands in the EIS that is sited on state and private land in the proponent's CEC Application.

5. **<u>Summary of Deficiencies in the DRAFT EIS</u>.**

Deficiencies in this DRAFT EIS are also described in more detail in Sections 1 and 2.

a. <u>The Serious Deficiencies below must be corrected before Completion of a Final EIS</u>.

(1) Coordinate this project with competing, same general timeframe, "connected action" projects under BLM lead agency reviews.
(2) Establish and document a real "need" in terms of specific "requirements" for **this project**, as the NEPA process requirements are not the project's need but are the requirements for a ROD by federal decision makers.

(3) Reduce the ROW to include less width, preferable by elimination of the second "row" of transmission towers.
(4) Develop a single ROW option. This project probably will never obtain TWO parallel ROWs, since its objectives can be met with other projects with one ROW.
(5) Interconnect with El Paso and Tucson to meet regional load demands and reduce existing two-way electricity flow in southern Arizona and New Mexico.
(6) Provide validated economic impact and cost estimation details that are presently erroneous for this project.
(7) Consider and assess the benefits of DC-only for transmission and the benefits of minimal or now EMF radiation, less line (energy) losses, fewer or smaller towers, less conductors, etc.
(8) Consider using current technology ACCR conductors (wires) and their total impact on this project compared to the proposed less-capable ACSR "Lapwing" conductor.
(9) Assess how additional Permits described in the EIS could increase the risk or environmental impacts this Project.

b. **Summary of Areas where issues have not been addressed that is missing**.

Each issue could have a significant resultant environmental effects involving air, water, land, and living things and economic impacts, as follows that are not included in this Draft EIS. Additional details including questions to be answered in a Supplemental or Final EIS are included Section 1 below. Details concerning specific information about "connected" renewable energy sources.

(1) Include local cities, such as Tucson, El Paso, and many Cities in New Mexico as users of electricity generated by the suggested renewable energy sources.
(2) Nonexistent analysis of the reclamation plan details of 400- to 1000-ft Rights of Way after construction completion. Further, a single ROW option should be considered.
(3) Erroneous analysis on the economic impacts on taxpayers, ratepayers and communities in Arizona and New Mexico must be corrected before any decisions are made.
(4) Failure to proved an enforcement process, mechanism and management to ensure compliance with the mitigation and restoration plans required for this project
(5) Nonexistent public comment session inputs into the NEPA documentation, public outreach, and mitigation as there were no public question and answer periods or transcripts.
(6) There is no plan in the DRAFT EIS that to ensure compliances so long-term degradation does not occur within or near the facilities, including the ROW.
(7) Public must review the proponent's Plan(s) of Development (POD) prior to the Final EIS.

5. **Draft EIS Conclusions**.

As shown in this cover letter, two sections, and attachments, many serious and significant environmental issues will remain unresolved for this project. This project cannot be approved until all significant environmental issues of this Action have been resolved and the resultant impacts are *reasonable w*hen compared to benefits. It is unreasonable to permit two ROWs when options for one ROW can be found. This project must consider using only one ROW.

Then, when is this Project reasonable?

First, when all the critical long-term environmental impacts that may result from building, operation, and removal of the project have been resolved.

Second, when all interactive, coordination and "connected action" issues have been resolved.

IF, the remaining impacts remain so significant that even a complex series of mitigation efforts will not adequately reduce the risk to the health and safety of citizens, to the environment, and that the risk remains significant with long-term environmental impacts, then the project is unreasonable and should result in a recommended NO ACTION decision.

6. **Draft EIS Recommendations**. Because the impacts of this project as described for the Alternatives described remain significant and cannot be reduced to a satisfactory or to a reasonable level, then the only prudent decision is that the appropriate decision makers should select the NO ACTION Alternative, UNLESS resultant "conclusion" above had clearly demonstrated that this Project is reasonable.

   At this stage, missing elements in the DRAFT EIS make this project unreasonable and NO ACTION Alternative pertains; however most issues are correctable to make parts of this project reasonable, as recommended by these comments. Reconsideration of TWO parallel ROWs is essential as it is very doubtful that the additional width for two rows of towers could meet the approval of any local, state or even federal siting authorities.

7. **Mailing List**. In response to references (b) and (c), please add my name and address to the mailing list for the SunZia Transmission Project.

Respectfully submitted,

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SECTION 1

AREAS OF SIGNIFICANT ENVIRONMENTAL IMPACTS NOT ADDRESSED IN THE DRAFT EIS.

The following areas of significant environmental impacts were not addresses in the Draft EIS, as summarized in the cover letter. These areas and issues lead to many questions below that should be answered in a Supplemental or the Final EIS for this project.

1.1 This Project's Need or Requirement is NOT Defined or Explained to Justify the Project.

This Draft EIS does not adequately define the "need" or the requirements for this transmission system but speculates that such a need might exist based on RPS from various states. The following additional information is necessary to support the need for this transmission system:

a. Where are the specific "renewable energy" generation sources located that will connect to each substation as shown on a map, including how they will connect?
b. What is the estimated load generation capability for each new renewable energy generation source?
c. What are the daily, monthly and seasonal generation variability schedules associated with these new generation sources?
d. What is the status of Purchase Power Agreements (PPAs) and Interconnection Agreements with these generation sources? This is necessary to demonstrate there is a viable or real need for this costly transmission system.
e. Why are no interconnections shown to support the 1,000,000 people who live in Northeast Pima County and the City of Tucson?
f. Why are no interconnections shown for El Paso, Texas and cities in New Mexico?
g. What are the local, regional, and cumulative total environmental impacts due to the "connected actions" of the proposed renewable energy generation sources?[8]
h. Who are all known generation sources that have specifically applied for these transmission services?
i. All the recently selected BLM areas for solar and wind generation in Arizona and New Mexico are west of the western terminal of this system thus, are there any solar and wind generation sources that will use BLM lands for the SunZia project?
j. Who are known regional solar and geothermal electricity generation systems in the envelope of the SunZia transmission system?
k. Western Texas wind power generation systems are in the Eastern Connection or Texas Grid, thus does SunZia have plans to use the Tres Amigas multi-grid AC/DC/AC interconnection?

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[8] A "connected action" is defined as:
*"those actions that are 'closely related' and 'should be discussed' in the same NEPA document (40 CFR 1508.25 (a)(1)). Actions are connected if they automatically trigger other actions that may require an EIS; cannot or will not proceed unless other actions are taken previously or simultaneously; or if the actions are interdependent parts of a larger action and **depend upon the larger action for their justification** (40 CFR 1508.25 (a)(1)). Connected actions are limited to actions that are currently proposed (ripe for decision). Actions that are not yet proposed are not connected actions, but may need to be analyzed in cumulative effects analysis if they are reasonably foreseeable." [BLM NEPA Handbook, p. 130]*

l. Why are two parallel ROWs considered necessary as double-circuits and even triple-circuits are commonly used to reduce the ROW footprint and resultant environmental impacts?

m. Minimal, at best, geothermal generation exists in the entire region. Only one possible geothermal electric generation is location, about 25 miles SW of Lordsburg is shown in the Economic Analysis Supplement.[9] There are no known geothermal electric generation capabilities in southeastern Arizona. Most geothermal energy capabilities are for geothermal heated water at less than 50C that is useful for "greenhouse, space heating, aquaculture, direct heating, spas/resorts/recreation" according to the figure's legend. Why is ANY thermal electric generation included in the Economic Analysis Supplement in this Draft EIS? [10]

n. The assumptions for Economic Impact Supplement include a 50 MW geothermal plant. These and other claims need an independent professional review in order to demonstrate any validity for economic benefits of this project. When will a new Economic Impact assessment for this project be developed, and, if so, will it be presented in a Supplemental EIS or on the SunZia website for prior review by the public? [Editorial note. In order to have any validity, the project's Economic analyses should not be constructed just for speculative investors but needs an independent review or "scrub" before it is made public.]

o. There are some data about renewable energy benefits to the environment and human health in the DRAFT EIS; however, specifics, based on known local, regional and cumulative (over 50-project-years) environmental impacts were not provided. Will these be in a Supplemental EIS? For example, what are the impacts of the changes due renewable generated electricity within the envelop of this project to groundwater levels, air pollution, landfills, and human health benefits? How much coal ash will NOT be accumulated based on these generation projects that will use the SunZia Project?

p. Specifically, how much cumulative groundwater will be saved or consumed and what will be the project direct and indirect impacts to the water table based on projected renewable generation determined in response to questions above?

q. What are the cumulative impacts on Native American cultural resources and material gathering areas impacted by this and its interconnected renewable energy projects?

Will BLM Respond to each question above in a Supplemental or Final EIS?

1.2. Comparing Competing Projects as SunZia Project EIS ALTERNATIVES and a Possible NO ACTION Alternative.

[9] See Draft EIS, Maps Volume, page 18, Figure 1.6, "Map of Geothermal Resources in New Mexico."

[10] See www.sunzia.net, "SunZia Transmission Line Economic Impact Assessment Supplement – Impacts of Potential Alternative Generation Facilities" with Errata, by Alberta H. Charney, et al (University of Arizona and New Mexico State University), April 2011, pp. 17-18. For example for Geothermal (50MW), from Table SC-1, "construction-related revenues" by county are: Cochise County $606,680; Graham County $510,990; Greenlee County $89,410; Pima County $717,420; Pinal County $744,210 with no geothermal electric generation capabilities in Arizona. Additional misleading (clearly erroneous) "estimates" abound throughout this report including 854 jobs in Arizona involving geothermal electricity generation with $113.35 million in annual sales. None of these numbers are realistic or even possible based on the natural environment in this region.

Some statements made by the Bureau of Land Management are of concern, in particular, comments related to the NO ACTION Alternative. The NO ACTION Alternative option is a ***reasonable***, viable and logical decision by the BLM Land Manager, especially, without firm transmission requirements or that the Project's need does not exists or is viable to justify the resultant environmental and economic impacts from the project.

A prudent decision maker will weight the total environmental costs to the benefits a project may offer. Can such a cost-benefit table be developed and published for review?

Since there are several on-going cumulative actions or projects, then ALL these related projects must be compared as Alternatives to each other. It is highly probable that one or two of these three concurrent and competitive projects, or parts of projects, could come to fruition. All federal land managers, including BLM, must make this decision. Without having all three projects compared as Alternatives to the others suboptimal decisions will result with unintended consequences lasting for a half-century or more.

The Final EIS must discuss the legal rationale for not making a NO ACTION Alternative decision for an unreasonable project, especially in view of prior case law.

Will BLM Respond to each question above in a Supplemental or Final EIS?

1.3. <u>Some Analyses or Discussions need to be included that are missing or not found</u> .

a. Nonexistent analysis of the environmental impact of the fuel used for vehicles, in particular, the BLM should consider requiring the use of low-sulfur content fuel for all trucks and mobile equipment.
    1. Are all of the vehicles to be used designed to use low-sulfur content fuel?
    2. If not, which will not use low-sulfur content fuel and is there a plan to convert any of these vehicles for this fuel type?
    3. What are the total and cumulative sulfur dioxide (SO2) amounts per year, every five years, for twenty years of operations for this project from these sources?
b. Nonexistent analysis on the impacts of the "transmission line roads". Which and where are the roads that are temporary (to be removed) and which roads will be permanent?
c. Are any natural gas or liquid petroleum pipelines near the ROW? (See Attachment 2)
d. Will there be a fence on each side of the transmission line ROW? (See Attachment 2)
e. The DRAFT EIS does not include a reclamation plan for the transmission line ROW.
    1. Will the utility ROW be restored to its original, or nearly original condition?
    2. How will invasive plant seeds be prevented from reaching this ROW?
    3. Will the EIS or ROD include a reclamation plan for this ROW?
f. Nonexistent public inputs into mitigation plan needs and compliance to ensure long-term degradation does not occur. The public has almost no confidence that this inexperienced proponent can operate in an environmental safe and effective manner. This can only be overcome by having clear objectives with accomplishment criteria published and reviewed by this skeptical public. The requirements for bonds are probably necessary to fund unintended costs and adequate to be used, when necessary, to ensure compliance.
    1. How will the Project keep the public informed, as it will accomplish the project's requirements and meet the goals of an integrated mitigation plan?
    2. What are the long-term objectives and consequences for non-attainment?

3. What is the individual bond requirement associated with each mitigation element accomplishment if the company fails to achieve the stated requirements of a mitigation plan?
4. What is the funding process to ensure adequate bonding requirements are complied?
5. What criteria does the BLM use to demand bond funding necessary to meet each mitigation goal?
6. Can the BLM shut down this transmission line project if a mitigation plan is not accomplished or bond-funding criteria are not accomplished?

Will BLM Respond to each question above in a Supplemental or Final EIS?

Section 2

Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
Volume I – Executive Summary and Chapters 1 to 5			
ES-1	ES.1 Introduction	• Comment: This is a "draft" EIS. • Conclusion: The word "Draft" should be added before environmental. • Recommendation: Add the word "Draft" prior to environmental.	p. ES-1, 1st paragraph, 1st sentence
ES-2	ES.1 Introduction	• Comment: The "purpose and need" given are for development of the EIS document, but not for the transmission project itself. • Conclusion: The need and electrical requirements for this transmission line project must be included. • Recommendation: Add at least one paragraph to describe the need and actual requirements for this transmission project.	p. ES-1, 3rd paragraph, 2nd sentence
ES-3	ES.2 Applicant's Proposed Action	• Comment: An applicant's "objective is to increase transmission capacity" in order to "relieve existing transmission constraints". • Conclusions: At present, electricity is flowing from West to East (for AZ Cooperatives and El Paso Electric) and East to the West for TEP from Luna and Springerville. This is illogical. A regional transmission should not have bidirectional electricity, in the same area. This objective is NOT being met with the present flawed design and interconnections. There is no SunZia interconnection to El Paso Electric. This would result in decreased capacity in West to East flows. There is NO interconnection with TEP for power for Tucson. The Tucson area and Coops have no benefits with SunZia. Add these interconnections. • Recommendations: (1) Add interconnection to El Paso Electric and other local utilities, (2) Add Interconnection to Tucson Electric Power in Subroute 4C3.	p. ES-2, 2nd paragraph, 1st sentence

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
ES-3	ES.2 Applicant's Proposed Action	• Comment: An applicant's "objective is to increase transmission capacity" in order to "relieve existing transmission constraints". • Conclusions: At present, electricity is flowing from West to East (for AZ Cooperatives and El Paso Electric) and East to the West for TEP from Luna and Springerville. This is illogical. A regional transmission should not have bidirectional electricity, in the same area. This objective is NOT being met with the present flawed design and interconnections. There is no SunZia interconnection to El Paso Electric. This would result in a decreased capacity in West to East flows. There is NO interconnection with TEP for power for Tucson. The Tucson area and Coops have no benefits with SunZia. Add these interconnections. • Recommendations: (1) Add interconnection to El Paso Electric and other local utilities, (2) Add Interconnection to Tucson Electric Power in Subroute 4C3.	p. ES-2, 2nd paragraph, 1st sentence
ES-4	ES.2 Applicant's Proposed Action	• Comment: "The Project will be collocated with areas of ***undeveloped renewable resource potential*** to provide a path for energy delivery." • Conclusion: As shown in the Economic Analysis for this project, many of the analysis economic factors were in error for renewable energy economic impacts. For example, NO locations in Arizona have geothermal energy at sufficient temperatures (>50C) to generate electrical power. There is only one "potential geothermal generation location" in New Mexico, about 25 miles SW of Lordsburg. Similarly, the solar generated electricity data are wrong. Therefore, **all economic forecasted data from this study appear erroneous because of its faulty assumptions**.[11] Geothermal electricity production requires water at a minimum of 200F (93C); however, "newer technologies" have proven lower-temperature water at 165F (74C) has been used for electrical generation. [12] Economic Analysis data have just 1 location above 50C. • Recommendation: That a **NEW Economic Analysis must be conducted ASAP** and provided as an urgent Supplement to this Draft EIS. Without such corrections, then decisions are based on erroneous economic impacts that are, in general, presently grossly overstated.	p. ES-2, 2nd paragraph, 2nd sentence

[11] See www.sunzia.net, "SunZia Transmission Line Economic Impact Assessment Supplement – Impacts of Potential Alternative Generation Facilities" with Errata, by Alberta H. Charney, et al (University of Arizona and New Mexico State University), April 2011, On pp. 17-18, for example, the electricity from Geothermal (50MW) generation, in Table SC-1, "construction-related revenues" by county are:

Cochise County $606,680; Graham County $510,990; Greenlee County $89,410;
Pima County $717,420; and Pinal County $744,210.

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No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
ES-5	ES.2 Applicant's Proposed Action	• Comment: Right of Way typically 400-feet wide, although ROW "up to 1,000 feet wide would be required under certain conditions." No "certain" conditions including location are in this Draft EIS. • Conclusion: This is a **very wide ROW, much more than is typically needed for a transmission line**, thus using DC for both circuits would be more efficient (less transmission line loss) and only require one instead of two independent structures. Either double-circuit on one set of towers but using two transmission line rows or corridors are absolutely not necessary. Two ROWs will add significant cost and additional environmental impacts. • Recommendations: (1) **Change from two to only one set of structures for this transmission system**, as there is no rationale reason for having two sets of structures, when one set, with two (HVDC), four (HCDC), five (2-HVDC/3-AC) or six (AC) conductors, depending on arrangement. (3) Reduce the total ROW width to 200 feet or less.	p. ES-2, 1st paragraph, 1st sentence.
ES-6	ES.2 Applicant's Proposed Action	• Comment: Right of Way typically 400-feet wide, although ROW "up to 1,000 feet wide would be required under certain conditions." • Conclusion: This is a very wide ROW, much more than is typically needed for a transmission line, thus using DC for both circuits would be more efficient (less transmission line loss) and only require one instead of two independent structures. Either double circuit but using two corridors is not necessary. • Recommendation: Change from two to only one set of structures for this transmission system, as there is no rationale reason for having two sets of structures, when one set, with two, four, five or six conductors in various AC and DC combinations, depending on the arrangement.	p. ES-2, 2nd paragraph, 2nd sentence.

There are no potential *geothermal electric* generation capabilities in Arizona. Thus there are NO construction, operations and maintenance (O&M), personnel (jobs), or tax revenue potentials from geothermal electric generation. Additional misleading (clearly erroneous) "estimates" abound throughout this report including 854 jobs in Arizona involving geothermal electricity generation with $113.35 million in annual sales. Similar errors also exist for other renewable energy economic analysis.

[12] See BLM/USFS "Final Programmatic Environmental Impact Statement for Geothermal Leasing in the Western United States, Volume I: Programmatic Analysis" October 2008 at pages 1-6 to 1-9. Temperatures above 360F (182C) are used for "flash steam power plants"; 165F to 360F (74C to 182C) for "binary cycle power plants"; and >455F (235C) for "dry steam power plants."

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
ES-7	ES.2 Applicant's Proposed Action	• Comment: The proposed origination point (SunZia East substation) for this project is in northeastern Lincoln County, New Mexico. • Conclusion: This is about 25 miles from the SW corner of Guadalupe County, New Mexico, the origination point for a competing project known as Western Area Power Administration's Centennial West Clean Line Transmission Project. The Centennial West Project is similar to SunZia and exceeds all of the capabilities associated with SunZia as shown in Table 1. • Recommendation: That the Clean Line Project be considered as an ALTERNATIVE to the SunZia Project due to that project's duplicative and redundant nature. As shown in Table 1 in the Cover Letter, these projects are very similar and redundant, with the capabilities or characteristics of Centennial West Project and Southline superior to most of the same for the SunZia Project.	p. ES-2, 3rd paragraph, 1st sentence.
Chapter 1 – Introduction.			
1-1-	1.1 Overview	• Comment: This sentence states that BLM will grant the ROW on "public lands" • Conclusion: BLM can only "site" or "grant" a project on public "federal" land as because only the state can grant a ROW on "state" public and private lands. • Recommendation: Before "public land" add "federal".	p. 1-1, 2nd paragraph, 2nd sentence
1-2	1.1 Overview	• Comment: "The Applicant … is evaluating options for a lease of 50 years or greater on state and private lands." • Conclusion: The Arizona State Land Department does not grant ROW leases for greater than 50 years. • Recommendation: Change to read "evaluating options for a lease up to 50 years on state and 50 years or greater on private lands."	p. 1-1, 2nd paragraph, 2nd sentence
1-3-	1.2 Project Description and Location	• Comment: This states, "up to three intermediate substations.." • Conclusion: This is NOT a very firm commitment for this project. It should be noted, at least in Arizona, intermediate substations are "sited" by the Sting Committee but each county may its own substation siting process. All intermediate substations can be only for an AC circuit and probably there would be none if the project were DC only. • Recommendation: Recommend changing to read "… the projects plan is for three intermediate AC circuit substations…"	p. 1-2, 2nd paragraph

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No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
1-4	1.2 Project Description and Location	• Comment: This and many other references to a possible DC circuit are indicated throughout the DRAFT EIS. • Conclusion: It is very important to know if these circuits are AC and/or DC, in particular, a single 780 KV DC circuit, with significantly less ROW requirements and more importantly, without Electromagnetic Radiation (EMF) issues, would be less expensive, require just 2 conductors and not five or six as being proposed, etc. • Recommendation: it is recommended that this issue be resolved PRIOR to the Final EIS, because of its significant impact on width of right of way, EMF characteristics, etc. In Arizona Line Siting Case No. 73, a CEC was later denied because an applicant changed from DC to AC after being granted a CEC permit for a DC circuit. It is highly recommended that a single DC circuit be used to meet the only possible need for this project, to move renewable wind generated electricity from NM to Pinal County AZ.	p. 1-2, 4th paragraph, 1st sentence and footnote
1-5	1.3 BLM's Purpose and Need	• Comment: The quote implies "[build] transmission lines to convey this new energy from coast to coast." • Conclusion. The actual quote by the President is "We'll begin to build a new electricity grid that lay down more than 3,000 miles of transmission lines to convey this new energy from coast to coast." This does NOT say that 3,000 miles of transmission lines will connect 'coast to coast" but overall, nationally, an additional 3,000 miles of new transmission will be needed for ALL the proposed renewable energy projects. Further, connecting transmission lines from "coast to coast" is impossible due to challenges when crossing from the Western to Eastern to Texas grids, each is synchronously independent of the other. • Recommendation: Correct or delete this quote from President Obama's first weekly radio announcement after inauguration.	p. 1-5, 2nd paragraph, 2nd sentence

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
1-6	1.4 Applicant's Objectives	• Comment: "New Mexico and Arizona are *characterized as regional power exporting areas*…"[emphasis added] • Conclusion: These two states to have this reputation due to excess electric power presently generated primarily by coal-fueled power plants in the Four Corners, northern Arizona and New Mexico, and near Willcox, Arizona. The resultant environmental impacts of these fossil fueled power plants result in harm to the environments in these states so that other states, namely California and Nevada, can have renewable energy provide their sources of power. These existing fossil fueled generation plants need to be replaced by clean renewable energy sources BEFORE renewable energy is exported to other states. Only then should renewable energy be exported. This DRAFT EIS looks only at exporting renewable electricity and not using renewable power to start replacing existing fossil -fueled power plant generation as its first priority for these two states. The Arizona Corporation Commission in prior line siting cases determined it would be better for Arizona to have cleaner air and more water than to export electricity to California and Nevada in order to reduce the cost of electricity or provide those states with renewable energy generated electricity BEFORE Arizona, in particular, as decided in the Devers-II Siting Case. • Recommendations: (1) That regional (New Mexico and Arizona) fossil-fueled power plants be replaced by clean renewable energy sources BEFORE exporting power to other states in order to reduce the regional environmental impacts. (2) That this Project be redesigned to resolve Arizona and New Mexico renewable energy requirements BEFORE consideration to export to other states. (3) That the DRAFT EIS should be modified to ensure Regional (AZ, NM) environmental benefits and cost to replace fossil-fueled power plants are considered as an Alternative before exporting electricity and adding air pollution and using ground water for electric generation for other states.	p. 1-6, 3rd paragraph, 1st sentence

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No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
1-7	1.4 Applicant's Objectives	• Comment: "The DOE reported that the transmission paths in southern New Mexico was ***highly congested*** in 2006, and remained highly congested at publication of their National Electric Congestion Study in 2009." [emphasis added] • Conclusion: This study, accomplished to meet the requirements of Section 1221 of the National Energy Policy Act of 2005, designated two areas in the county with serious transmission congestion, one being power for **Southern California** with the other between West Virginia and New Jersey. New Mexico and eastern Arizona were NOT one of these two designated congestion areas. In fact, specific counties were included in CA and in AZ they were Yuma, La Paz, Maricopa, and Pinal. **The SunZia proposal will NOT improve national "transmission congestion**" concerns determined by the DOE. • Recommendation: Correct this sentence and its impact elsewhere in the Draft EIS. SunZia will NOT improve the congestion issues reported by DOE.	p. 1-6, 3rd paragraph, 2nd sentence
1-8	1.4 Applicant's Objectives	• Comment: This table shows the "net short" transmission capacity needed for solar and wind to meet RPS standards. • Conclusion: This table assumes all solar and wind energy will be developed away from existing transmission facilities, which is not occurring. Most RE projects are less than 100 MW, and thus do NOT need transmission lines but can easily use local distribution lines (at less than 115 kV). Even so, looking at 2025 (worst case), we see that the needed transmission is about 4,000 MW for Arizona and 3,000 MW for New Mexico. Assuming 50% of this uses distribution lines, then both SunZia and Centennial West Projects will NOT be required. • Recommendation: (1) That the DRAFT EIS include a Supplemental EIS to include both the impacts of Centennial West and Southline Projects as ALTERNATIVES. (2) That the same Supplemental EIS be used for all three projects.	pp. 1-6, 1-7, Table 1-1.
1-9	1.4 Applicant's Objectives	• Comment: This paragraph provides information that implies the primary reason for this project is to make transmission services available in the SunZia area of interest. • Conclusion: This impression from this paragraph is that this project is being developed with the "hope" that others will come, pay wheeling charges, and use the proposed transmission system, like what they say in real estate, "build the homes and they will buy." • Recommendation: This impression leaves the "need" open.	p. 1-7, last paragraph

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No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
1-10	1.10.3 Department of the Army	• Comment: This paragraph only concerns WSMR and Fort Bliss. • Conclusion: This paragraph does not discuss Fort Huachuca and the Electronic Proving Ground. • Recommendation: Add a reference to Fort Huachuca and the Electronic Proving Grounds.	p. 1-16, entire section
1-11	1.11 BLM Plan Amendments	• Comment: This refers to "public lands" which is too broad. • Conclusion: The BLM land use plans are only for federal land as only States have this authority for state and private land. • Recommendation: Before "public land" add the word "federal"	p. 1-17, 1st paragraph, 1st sentence
1-12	Table 1-5	• Comment: Local ordinances also may pertain to substations separately from transmission lines. • Conclusion: To clarify, these separate actions could be indicated. • Recommendation: In first column, third entry starting with "Amending zoning…" after "transmission line" add "and substations"	p. 1-22, under "Local"
Chapter 2 – Proposed Action and Alternatives			
2-1	2.2.2.1, Siting Opportunities	• Comment: Moderate siting opportunity levels include "natural gas/petroleum pipeline, 6-inch diameter or greater." • Conclusion: Attachment 2 in this review discusses safety issues involved with transmission lines and pipelines. • Recommendation: These safety hazards must be included in the EIS.	p. 2-4, 2nd paragraph, 2nd bullet
2-2	Table 2-1, Environmental Sensitivity Summary	• Comment: One designation of land use by the US Forest Service is for "roadless areas" that appear to meet the "Exclusion" sensitivity level. • Conclusion: Roadless areas are known and should be considered. • Recommendation: Add to the "data layers" a new entry for "US Forest Service Roadless Areas"	p. 2-5, under Land Use
2-3	Table 2-1, Environmental Sensitivity Summary	• Comment: State and county designated "Scenic Roads" were omitted. • Conclusion: Scenic Roads are known and should be considered. • Recommendation: Add or include in the "data layers" an entry for "State and County Scenic Roads"	p. 2-5, under Visual and Recreation
2-4	2.3.3.2, Alternative Transmission Technologies	• Comment: This states "The environmental effects of constructing two DC lines would be substantially similar to the effects of one AC and one DC line." In general, DC circuits will require a smaller right of way. • Conclusion: DC lines require 2 conductions, AC lines require 3. A double circuit DC system would use only one set of poles with 4 conductors. A DC/AC arrangement on one set of poles is feasible. • Recommendation: A double-circuit DC and one AC/one CD on one set of poles have less environmental impacts and should be considered.	p. 2-35, Direct Current Transmission, 6th sentence

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
2-5	2.3.3.2, Alternative Transmission Technologies	• Comment: Only superconducting conductors were considered and rejected. The ACSR conductor was selected (Table 2-4) • Conclusion: The ACCR conductors discussed in Attachment 1, as Issue 3, show that the ACCR conductors have a proven track record in our local climate. ACCR conductors were not considered or discussed. • Recommendation: ACCR conductors should be considered instead of the lower capabilities and higher environmental costs for the proposed ACSR conductor for this project and included in the next EIS.	p. 2-38,, New Transmission Technologies
2-6	2.3.3.3, Alternatives to New Transmission	• Comment: This sentence indicates that distributed generation (DG) systems range from 5 kW to 10 MW. • Conclusions: Most rooftop solar systems are less than 5 kW and distribution lines, at 69 kV, can carry over 100 MW. • Recommendation: Rewrite this sentence to read: "Distributed generation (DG) systems range from less than 1 kW up to 100 MW, in general, use local or distribution lines, while transmission lines are required when local generation exceeds 100 MW."	p. 2-40, "Distributed Generation", 1st paragraph, 1st sentence
2-7	2.3.3.3, Alternatives to New Transmission	• Comment: This paragraph is misleading, in particular stating that DG would not "increase regional transmission" and is in error in implying DG reduces reliability • Conclusions: (1) DG reduces the requirements for transmission because power is used nearer to the source, thus eliminating some transmission needs (contrary to SunZia's "marketing strategy." (2) Studies have shown that DG increases reliability by stabilizing the local grid. • Recommendation: Rethink and rewrite this paragraph because DG is one ongoing action that does improve the nation's electricity system.	p. 2-40, "Distributed Generation", 2nd paragraph
2-8	2.3.3.3, Alternatives to New Transmission	• Comment: This paragraph lists six factors as risks when multiple lines use the same corridor. • Conclusions: Based on these factors, adding two circuits on the same pole will eliminate the first 3 of these six risk factors (tower falling against condors on the adjacent line, shield ground wire from one tower reaching and adjacent conductor, aircraft damaging more than one circuit). The other 3 hazards exist for a single or multiple line corridors (fire, lightning, malicious damage). • Recommendation: Rethink using two sets of towers when one set can do the job with lower risk!	p. 2-40, "Existing Transmission System Upgrades", 3rd paragraph

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No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
2-9	Table 2-3	• Comment: This table shows typical transmission line transfer capacities and widths of typical rights of way. • Conclusion: For the same ROW width (200 to 250 feet), a 500 kV (AC) capacity is 1,500 to 2,000 MW while a 500 kV (DC) capacity is 3,000 to 3,500 MW, about a 50% greater capacity for the same ROW width. • Recommendation: Considering that ROW width is a critical environmental factor for transmission line siting, then DC is about 50% better than AC, for this one environmental decision factor.	p. 2-41
2-10	2.3.3.3, Alternatives to New Transmission	• Comment: This sentence states that higher voltage transmission has "fewer line losses". • Conclusions: Energy is always required to transmit electricity that decreases as voltage increases. • Recommendation: Suggest changing to "less line or energy loss" to slightly clarify.	p. 2-41, "Existing Transmission System Upgrades" 2nd paragraph, 1st sentence
2-11	2.3.3.3, Alternatives to New Transmission	• Comment: The tone of this paragraph is that transmission capabilities are presently in a terrible state of readiness in southern NM and AZ. • Conclusions: Several transmission lines are in this area but some are, unfortunately, sending electrons in opposite directions. This is very wasteful, in not only energy loss required with redundant parallel systems. This is due transmission line ownership challenges beyond the scope of this comment; however, a technical analysis would show that there is high margin of wasted energy expended in this area. If these "owners" would/could coordinate, they would not have to expend capital funding redundant, duplicative systems. There is no "congestion" other than that created by the various utility owners, including the rural cooperatives. • Recommendation: Suggest BLM have a technical expert from FERC or DOE to provide BLM the necessary expertise to wring out the waste (and hopefully not fraud) that is presently occurring in southern NM and Arizona.	p. 2-41, "Existing Transmission System Upgrades", 2nd paragraph
2-12	2.3.3.3, Alternatives to New Transmission	• Comment: This discussion is not clear. Figure 2-8 shows double-circuit transmission line structures. • Conclusion: The double-circuit comparisons in Figure 2-8 (page 2-43) demonstrate that double-circuits are a reasonable alternative. Even if the AC circuit was 345 kV (not shown) and the other was a 500 kV, then the proponent's objectives could be met. The rationale for a proposed, wider, with two ROWs does not make any sense. • Recommendation: Rewrite this paragraph.	p. 2-43 and 2-44, Double-circuit Structures

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No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
2-13	2.3.3.3, Alternatives to New Transmission	• Comment: These three paragraphs miss the objective, such as using one side for 500 kV DC and the other for a 345/500 kV AC or DC. • Conclusion: Additional research will uncover DC/AC combinations. The AC side could interconnect with intermediate substations while the DC side just bypasses. A much smaller ROW will be required and the discussion about two ROWs is not realistic. This project will, at best, be granted only ONE ROW and must be proposed with that Alternative. • Recommendation: Reconsider this discussion but as a minimum, double-circuit in one ROW should be a limiting constraint on system design. This is a reasonable "mitigation" requirement that the BLM should require the SunZia proponent in order to obtain a favorable ROD.	p. 2-44, DC Option, all
2-14	2.3.3.3, Alternatives to New Transmission	• Comment: The paragraphs in this section are concerned about urban parts of this project. • Conclusion. This section avoids other related environmental issues. • Recommendation: Rewrite to include all of the various environmental impacts for this project. It is very incomplete.	pp. 2-44 and 2-45, Environmental Impacts, all
2-15	2.3.3.3, Alternatives to New Transmission	• Comment: The "public has expressed concern about electric and magnetic fields (EMF)". • Conclusions: (1) This sentence confuses "electric" or E fields with "electromagnetic fields" or EMF fields. All electrical currents emit (AC or DC) an electric (or "E") field but only AC has an "EMF" field due to the sinusoidal plus/minus 60 Hertz frequency associated with AC. (2) The public is concerned primarily with EMF fields impacts on humans; however, induced currents form the E field can also have serious safety consequences as described in Attachment 2. • Recommendation: Rewrite and clarify the two different emissions from electric lines, including the safety recommendations in Attachment 2.	p. 2-44, Environmental Impacts, 2nd paragraph

Section 2

Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
2-16	2.4, Description of the Proposed Action and Plan of Development	• Comment: This paragraph discusses the content of a Plan of Development that will be incorporated "*by reference* into this EIS." • Conclusion: Incorporation by "reference" will prevent the public from understanding these plans listed and how the impact on the public. Further, these plans contain additional implementation details, "where the rubber meets the road" that MUST be provided in either a Supplemental or, as a minimum, on the existing website (as these plans are revised, which is expected). Including them for public review, at least during the short time period allocated for Final EIS review, without feedback (as required for DRAFT EIS comments) is an essential right that this one statement seems to avoid. The "plans" described in the POD are typically found as testimonial exhibits during line siting hearings and available for public review and comment. • Recommendation: That the draft and as the Plan of Development (POD) is created, it is provided to the public on the BLM Project website with a reasonable time allocated for public comments for **each** plan described in this paragraph of the DRAFT EIS. Providing the POD for public review with the Final EIS is too limiting for meaningful feedback and corrective actions by the proponent.	pp. 2-45 am 2-46, 2nd paragraph (all)
2-17	2.4.1, Overhead Transmission Lines.	• Comment: Option A is for two single-circuit 500 kV AC transmission lines. • Conclusion: Requiring TWO rights of way, each 200-feet wide, is a terrible option when double-circuit on one set of towers will accomplish the same objective at less cost, less environmental impacts, and a dozen other reasons. There is absolutely NO justification for OPTION A, being two separate single-circuits. • Recommendation: **That OPTION A be changed to a double-circuit 500 kV AC with a single 200-foot ROW**.	p. 2-46. 2nd paragraph, Option A and p. 2-47, Table 2-4
2-18	2.4.1, Overhead Transmission Lines.	• Comment: Option B is for one single-circuit 500 kV AC and one 500 AC or DC single-circuit transmission lines in a 400-foot right of way. • Conclusion: Requiring TWO rights of way, each 200-feet wide, is a terrible option when double-circuit on one set of towers will accomplish the same objective at less cost, less environmental impacts, and a dozen other reasons. There is NOT justification for OPTION B, being two separate single-circuits. • Recommendation: **That OPTION B be changed to a double-circuit 500 kV AC and a 500 kV DC transmission line with a single 200-foot ROW**.	p. 2-46. 3rd paragraph, Option B and p. 2-47, Table 2-4

Section 2

Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
2-19	2.4.1, Overhead Transmission Lines.	• Comment: The Nominal voltage for the AC circuit(s) is "500 kV to 525 kV AC" • Conclusion: This "nominal voltage" is a change from everywhere else in the DRAFT EIS. If this range of 500 to 525 is being requested for this project, it should be stated the same throughout the DRAFT EIS. • Recommendation: Change the AC voltages to be consistent throughout the entire EIS.	p. 2-47, Table 2-4, Electrical Properties
2-20	2.4.4, Conductors	• Comment: This section described the ASCR (aluminum, steel-reinforced core) conductors. • Conclusion: See Attachment 2 for a description of the ACCS conductor. • Recommendation: Conduct and summarize a "trade-study" to compare the ASCR versus the ACCS conductors and provide the results on the BLM project website prior to the Final EIS.	p. 2-57, all
2-21	Table 2-10, Standard Mitigation Measures	• Comment: No mitigation safety measures are shown for the factors described in Attachment 2. • Conclusion: The measures suggested in Attachment 2 appear to be reasonable and, after review for applicability to this project, each of the appropriate high voltage transmission line safety measures in Attachment 2 will need to be added to Table 2-10. • Recommendation: That Table 2-10 is modified to include, as a minimum, the safety mitigation measures as recommended in Attachment 2.	p. 2-87, Table 2-10
2-22	Table 2-10, Standard Mitigation Measures	• Comment: This mitigation measure requires "dulled" metal or self-weathering finishes to be used to reduce visual impacts. • Conclusion: To reduce the visual imprint of the structures, the less contrast between the finish and the background will "hide" the structure. The utility poles are most visible when there is a significant contrast between the pole color and the background. For poles on ridgelines and passes, the background will be the sky and in valleys, the background will be the earth. Thus, using surface finishes of either dulled-gray galvanized steel or dark brown core ten should be chosen to reduce this contrast. Poles on ridgelines should be dulled-gray in color and those in wooded areas and valleys, could be core ten. • Recommendation: That the BLM Authorized Officer use "contrast" between the structure and its background as the key criteria to reduce visibility when deciding between "dulled" versus self-weathering finishes.	p. 2-87, measure 11l

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
2-23	2.5.4, BLM Preferred Alternative and 2.5.4.2, Arizona	• Comment: This section describes the BLM Preferred Alternative. • Conclusion: As recommended by the project proponent, subroute 4C2 is NOT preferred when compared to subroute 4B. • Recommendation: This party has recommended subroute 4C3 as the Primary Preferred Alternative and subroute 4B as a secondary preferred alternative.	pp. 2-102 to 2-104,
Chapter 3 – Affected Environment			
3-1	3.3.3.2, Geological Hazards	• Comment: This paragraph discusses earthquakes near Fedonia in northern Arizona. • Conclusion: The most significant earthquake in modern time was the 3 May 1887 earthquake in the San Bernardino Valley, Sonora, Mexico, which measured VII on the Modified Mercalli intensity scale in Tucson and III in Albuquerque, New Mexico. This quake, just south of the border, would be a magnitude 7 quake today. Boulders the size of homes rolled down the Rincon Mountains and into the streets of Tucson. (ref: Susan M. DuBois and Ann W. Smith, *The 1887 Earthquake in San Bernardino Valley, Sonora*, Arizona Geological Society Special Paper No. 3, December 1980). • Recommendation: That the 1887 quake also be discussed and the impacts of a magnitude 7 quake on this project be considered.	p. 3-28, Seismicity (Earthquakes), 2nd paragraph.
3-2	3.3.3.2, Flooding	• Comment: One major substation, the TEP South substation is about 50% within the 100-year floodplain. This substation is adjacent to the Santa Cruz River and on the opposite side is a Molybdenum processing plant that also would flood with serious toxic chemicals surrounding this substation. • Conclusion: The Project does NOT interconnect with TEP HVAC circuits for Tucson and Pima County. • Recommendation: One reason this party prefers Alternative Subroute 4C3 (Tucson) is to provide another path, with another power source for Tucson if and when this station floods and Tucson loses about 1/3rd of its interconnections to generation, probably for an extended period of time.	pp. 3-27 and 3-28, Flooding, all.
3-85	Table 3-30, Species Addressed by the ESA…	• Comment: The Jaguar is listed as not having a critical habitat. • Conclusion: On 17 August 2012, the USFWLS designated a "critical habitat" of 838,232 acres in Pima, Santa Cruz, and Cochise Counties in Arizona and Hidalgo County in New Mexico for the Jaguar with some parts of this area near the Group 4 subroutes. • Recommendation: That this portion of the Table 3-30 be corrected.	p. 3-85, under Mammals

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
3-89	3.6.6.1, Endangered Species Act… and 3.6.8.1, Wildlife Linkages	• Comment: This section provides information about the jaguar. • Conclusion: The recent USFWLS designation of a critical habitat contains later and updated information; including the latest fall 2011 siting in the Whetstone Mountains in Cochise County. The Rincon-Santa Rita-Whetstone wildlife corridor has jaguar as a potential user. • Recommendation: Consider reviewing this report and updating this section, if applicable.	p. 3-89, Jaguar (*Panthera onca*) and 3-109
Chapter 4 – Environmental Impacts			
4-1	**4**.17.3.2 Identification of Past, Present, Future, and Reasonably Future Actions, Land Uses and Projects	• Comment: The Southline Transmission Project is briefly discussed and this paragraph indicates, as of January 2012, "there is insufficient information on the project and therefore cannot be meaningfully evaluated in the analysis although the project is considered a reasonable foreseeable future action." • Conclusion: Since January 2012, this project completed the Scoping Phase and the Draft EIS is being developed with BLM New Mexico as the Lead Agent. This project is very relevant and duplicative of many of the capabilities in SunZia and MUST be compared as an Alternative to SunZia. Other information in this paragraph is also misleading or erroneous as the Eastern terminal is near Las Cruces, NM and not at the Apache Power Plant in Arizona. • Recommendation: (1) That BLM SunZia and Southline Project Managers exchange information. (2) That a Supplemental EIS be developed to compare these projects as Alternatives.	p. 4-248, under Transmission Lines, 1st paragraph
4-2	4.17.3.2 Identification of Past, Present, Future, and Reasonably Future Actions, Land Uses and Projects	• Comment: This Figure shows locations of potential cumulative effects activities locations. • Conclusion: Several known such cumulative effects are not included, are incomplete or erroneous. • Recommendations: (1) That the Southline Transmission system be properly shown. (2) That the Centennial West system be properly shown. (3) That the Rosemont Copper 138 kV line be shown. (4) That the Vail to Valencia 138 kV line be shown. (5) That the El Paso Natural Gas Lines be shown. (6) That the Three Points-Sasabe proposed gas line be shown.	p. 4-249, Figure 4-1

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Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
4-3	4.17.3.2 Identification of Past, Present, Future, and Reasonably Future Actions, Land Uses and Projects	• Comment: No airports or copper mines are shown as having "Health & Safety/Hazardous Materials". • Conclusions: A "•" should be under Health & Safety/Hazardous Materials for All airports due to air hazards from utility poles, fuels stored at airports, etc. and for all copper mines that have explosives and large amounts of acids and other toxic and hazardous materials. • Recommendations: That a "•" be added under Health & Safety/Hazardous Materials for All airports and for all Copper Mines.	p. 4-254 to 4-256, Table 4-30
4-4	4.17.3.2 Identification of Past, Present, Future, and Reasonably Future Actions, Land Uses and Projects	• Comment: there is no entry under transmission lines for Centennial West and an error under Southline. • Conclusions: There is no entry for Centennial West Transmission line and an error under Southline. • Recommendations: (1) That the "345" under Southline be changed to "345/230". (2) That an entry be made for Centennial West, see Table 1 in the Cover letter for data.	p. 4-260, Table 4-30
4-5	4.17.3.2 Identification of Past, Present, Future, and Reasonably Future Actions, Land Uses and Projects	• Comment: there are two entries for "Kinder Morgan SFPP L. P. El Paso to Tucson (Phoenix) pipeline." • Conclusions: The first such entry should be deleted as the second is more comprehensive and descriptive. • Recommendation: That the "Kinder Morgan SFPP L. P. El Paso to Tucson pipeline" entry is deleted.	p. 4-262, Table 4-30
4-6	4.17.3.2 Identification of Past, Present, Future, and Reasonably Future Actions, Land Uses and Projects	• Comment: The entry for Power Plants in Arizona for the Apache power station does not include its generation capabilities or its fuel (coal). • Conclusions: This entry should be completed. • Recommendation: That the entry for Apache Power Plant be completed.	p. 4-263, Table 4-30

Section 2

Significant Comments, Conclusions and Recommendations in the Draft EIS

No.	Subject	• Comment(s) • Conclusion(s) • Recommendation(s)	DEIS Page, paragraph, sentence
4-7	4.17.3.3 Energy Development Forecast Analysis	• Comment: The Final BLM Programmatic EIS solar and wind projects are NOT near the SunZia project area of interest. • Conclusions: This entry is misleading. Seven utility-scale BLM PEIS solar or wind for 5,000 MW of generating capacity projects are being expedited by the present administration that will site two in Arizona with five others in California, Wyoming and Nevada. This recent announcement is to expedite major renewable energy infrastructure projects are the 425 MW Mohave Wind Energy and the 100 MW Quartzsite Solar Energy Projects, both located in western Arizona.[13] None of these proposed projects are sited in New Mexico. • Recommendation: That this statement and others concerning the BLM PEIS in the DRAFT EIS be corrected to reflect that current status of these projects.	p. 4-269, 2nd paragraph
4-8	Table 4-39, Reasonably Foreseeable Future Projects	• Comment: The Tres Amigas Interconnection Project is not listed • Conclusions: This entry should be included the EIS, either here or as a separate entry. • Recommendation: That an entry for Tres Amigas be added.	p. 4-311, under Substations
4-9	4.17.4.15, Health and Safety/ Hazardous Materials	• Comment: The electrical safety impacts of high voltage transmission lines from Attachment 2 are not included. • Conclusions: This entry should be added with Attachment 2 being considered. • Recommendation: That electrical safety impacts be added.	p. 4-321, all

[13] White Hours News Release, 7 August 2012, "We Can't Wait: Obama Administration Announces Seven Major Renewable Energy Infrastructure Projects that Would Power 1.5 million Homes to be Expedited," see http://www.whitehouse.gov/the-press-office/2012/08/07/we-can-t-wait-obama-administration-announces-seven-major-renewable-energ Also see an *Energy Prospects West* article " Feds to Expedite Major Western Renewable Projects" of 21 August 2012 at http://www.energyprospects.com/cgi-bin/package_display.pl?packageID=3890

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ATTACHMENTS

Attachment 1.

Marshall Magruder, "Scoping Comments on the Southline Transmission Line Project (DOE/EIS-0474)" of 4 June 2012. [note: pagination herein may different from the original]

Attachment 2. .

Bonneville Power Administration, "Living and Working Safely Around High-Voltage Power Lines", available at www.transmission.bpa.gov/LanCom/Real_Property.cfm

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ATTACHMENT (1)

Marshall Magruder
PO Box 1267
Tubac, Arizona 85646-1267
4 June 2012

Southline Transmission Line Project
Bureau of Land Management
Las Cruces District Office
1800 Marquess Street
Las Cruces, NM 88005-3371
Attn: Frances Martinez, Realty Specialist

Subject: Scoping Comments on the Southline Transmission Line Project (DOE/EIS-0474)

Ref: *Federal Register*, Notice of Intent to Prepare and EIS for the Proposed Southline Transmission Line Project in New Mexico and Arizona (DOE/EIS-0474) and Possible Land Use Amendments, vol. 77, No. 65, pp. 20441-20443

Encl: (1) Retain Western as the Transmission Provider for Santa Cruz County
(2) Coordinate the Southline and SunZia Transmission Projects' Environmental Reviews
(3) Consideration of ACCR Conductor

1. Summary. There are three issues that should be considered in the Draft EIS. Each is discussed in the below Enclosures. The first issue is to retain Western Area Transmission Administration (Western) transmission services to Santa Cruz County as the transmission provider to avoid significant customer cost impacts and the environment. The second issue is supports the Southline project when compared to the SunZia project. The third issue is consideration of ACCR.

2. Personal Background. I served as the Energy Commissioner and Vice Chairman for the Joint Energy Commission for the City of Nogales and Santa Cruz County, Arizona, from 2001 through 2008. I am very familiar as to the transmission needs for my county. I have participated as an individual party in several transmission line siting cases before the Arizona Power Plant and Transmission Line Siting Committee and the Arizona Corporation Commission including several cases involving Santa Cruz and Pima Counties.

3. Scoping Comments. See Enclosure (1) for Issue 1, retain Western as the transmission provider for Santa Cruz County; Enclosure (2) for Issue 2, coordinate the Southline and SunZia Transmission Projects' environmental reviews; and Enclosure (3) for Issue 3, consideration of ACCR conductor.

4. Additional Comments. In general, the states do not understand that federal land managers have the authority to site facilities only on their land and not on private and state land; however, the NEPA process looks at the total and cumulative impacts of a federal action involving this decision.

The resultant environmental information from the NEPA process can greatly benefit the states and all other levels of government in their siting responsibilities on state and private land; however, the

federal process specifically does not “site” facilities on state and private land as that responsibility is the sole authority of each individual state.

Arizona and New Mexico are involved in this project. Each state has its own siting criteria and processes that impact project siting. Each state must independently exercise their responsibilities.

Some involved with these projects believe the federal process dominates and directs the state’s siting processes and authority; however, this is false. The NEPA process is designed to provide decision-makers, at any level of government, essential environmental impact information and a recommended or preferred Alternative. A preferred Alternative is only for the federal action and its decision makers and also is NOT a decision; but should be a serious consideration by all concerned. Federal land managers will make their final decisions based on this information.

It is not uncommon for Alternatives, other than the preferred, to ultimately be decided by a decision maker at any level. Further, some decision makers have selected part of one Alternative and part of another Alternative or just part of any one Alternative and not the whole project. Each decision maker usually includes a detailed set of conditions, such as a mitigation plan, with its decision to allow construction on federal, state or private land. The federal government has formalized this in a Record of Decision (ROD). Unless the project proponent agrees to the ROD and its conditions, then the project is not allowed to start. Federal land managers may also have to update their management plan if a ROD is contrary before allowing the project to use federal land.

The draft EIS needs to explain these relationships, especially since different states are involved.

5. Administrative Comments. It is requested that I be added to the Mailing List, to receive notification of EIS availability, and preferably, a hard copy by mail. I have no objection to release of any personal information within these comments. If there are any questions concerning these comments, please feel free to contact me at the above address or by phone or email as indicated below.

Respectfully submitted,

Marshall Magruder
520.398.8587
Marshall@Magruder.org

Cc (email):
Santa Cruz County Board of Supervisors,
Chairman Rudy Molera, Supervisors John Maynard and Manny Ruiz
Santa Cruz County Complex
2150 North Congress Drive
Nogales, Arizona 85621

Enclosure (1)

Issue 1

Retain Western Transmission Services to Santa Cruz County

Background.
Santa Cruz County has a single-circuit 115 kV transmission line from the Western Area Power Administration (Western) "Nogales Tap" 115 kV substation in southern Tucson, an emergency backup 46 kV sub-transmission line, and 64 MW of local generation in the City of Nogales for peaking and emergency power. Peak summer demands are presently around 80-81 MWs.

Existing Situation.
Whenever our power demands exceed Western's constrained capacity of about 65 MW local generation is required in Nogales to make up the difference with natural gas or diesel turbines.

Planned Solution.
To alleviate the existing constraints on the present 115 kV Western transmission line, UNS Electric and Tucson Electric Power Company (TEP) plan to construct a new 138 kV transmission line from the TEP Vail substation to the vicinity of the Nogales Tap (bypassing this substation) and connect with the existing transmission line to Nogales. The Nogales line was designed for 115 kV or 138 kV in Pima County but in Santa Cruz County, UNS Electric will upgrade the 115 kV transmission line with a 138 kV line, generally in the same corridor. The Arizona Corporation Commission in a Certification of Environmental Compatibility (CEC) in Line Siting Case No. 144 approved this upgrade. Construction, however, has been delayed from summer of 2012 to 2015 or later.

Recommended Alternative.
If the 230 kV Southline upgrades to the existing 115 kV Western line at the Nogales Tap substation is constructed, then the existing Western constraints for Santa Cruz County will not exist. This will eliminate the requirement for a new 138 kV transmission line be build to connect the TEP Vail substation to the vicinity of the Nogales Tap. This will save UNS Electric ratepayers the cost of the 3.8 miles of new 138 kV transmission line and a 345:138 kV transformer at Vail for this extension.

Benefits of Retaining Western Transmission Services for Santa Cruz County.

First, obviously saving some $3 Million by not constructing a new 138 kV transmission line. Also, transformer costs are reduced for a smaller 230:138 kV transformer at the Nogales Tap substation instead of a more expensive 345:138 kV transformer at the TEP Vail Substation.

Second, the wheeling charges used by Western are less than TEP's wheeling charges, thus resulting in continuous savings for UNS Electric customers.

Third, environmental impacts (i.e., "externalities") are less because TEP uses coal for 89.4% of the power it sells compared to UNS Electric's use of coal for less than 60% of the power it sells. TEPs environmental impacts will not be in the vicinity of the Southline but in Northern Arizona. TEP obtains much of its power from its coal-fueled Four Corners, Springerville and Navajo generation plants that is transmitted to TEP's service area and the Vail substation with greater energy line losses. Visual obscuration and health are the primary concerns near these generation plants.

Fourth, a reduction of coal-fueled power generation uses less groundwater to generate the electricity for Santa Cruz County, as power generation consumes more groundwater in Arizona than the agriculture, industrial, mining, or residential customer categories.

Fifth, not building a new 138 kV transmission line removes associated visual and construction impacts in a new corridor on the opposite side of a road already with transmission lines.

Sixth, the continuation of a half-century of transmission services from Western for the approximately 19,000 Santa Cruz County customers has proven satisfactory and this upgrade will not only improve the capacity but also reliability.

Seventh, the simultaneous expansion of the Western transmission capabilities and reduction of a major customer base is contrary to the goals of the Energy Policy Act of 2005 Section 1222 that directed Western to make transmission improvements. Western does not lose a customer.

Eight, the ending of local natural gas and diesel required generation in the City of Nogales, a Clean Air Act designated non-attainment area, greatly reduces local environmental impacts to overcome Western's transmission capacity constraint restrictions.

Ninth, local generation in Nogales becomes a backup power source as designed, not a primary power source.

Tenth, the Southline also has a "new" direct transmission line connection to the TEP Vail substation that appears to allow coordination of Western and TEP's transmission to improve reliability with benefits for all in southern Arizona.

Impacts for Retaining Western Transmission Services for Santa Cruz County.

The primary impact, other than not constructing a transmission line, requires amending of the ACC Decision No. 71282 of 7 October 2009 in Corporation Commission Case No. 144 CEC (Docket No L-00000F-09-0190-00144). This administrative change, with reduced environmental and economic consequences, could be easily made by a request to modify this Decision. I was a party in these proceedings. If this alternative is acceptable by Western, I can initiate this process to start the process to have the Case No. 144 CEC modified as requested herein.

Conclusion.

There are many benefits for Western, UNS Electric customers in Santa Cruz County and the environment by continuing Western's services to Santa Cruz County at lower cost than planned.

Recommendation.

Retain and upgrade the Nogales Tap substation from 115 kV to 230 kV with a new 230:138 kV transformer to continue Western's services for Santa Cruz County to delete an unnecessary Vail-Nogales Tap 138 kV transmission line.

Enclosure (2)

Issue 2

Coordinate the Southline and SunZia Transmission Projects' Environmental Reviews

Background.
There are two competing transmission line projects in Arizona that provide nearly the same services. The Southline project mostly uses existing transmission line corridors while the SunZia project develops mostly new transmission line corridors. Each of these projects has ongoing, simultaneous NEPA environmental reviews managed by the Bureau of Land Management (BLM) in the same general area.

Existing Situation.
The present Western transmission lines in Southern Arizona are at capacity and urgently need to be upgraded as discussed in Section 1222 of the Energy Policy Act of 2005. New transmission capacity is being planned for New Mexico by both of these projects. Further, Lucky Corridor, LLC, plans a third transmission project of 93 miles of double-circuit 230 kV for Western and the a fourth project is the Centennial West Clean Line HVDC lines in northern New Mexico and Arizona. All these projects provide transmission capabilities for the same renewable energy sources.

The Southline and SunZia transmission projects in Southern Arizona provide duplicative services.

Only ONE of these two Southern Arizona projects can resolve the existing Western capacity and reliability issues and meet the needs of various transmission customers, whether existing customers or future "renewable energy" providers.

Since each project has a different proponent, BLM has to conduct two to four NEPA reviews with significant overlaps of environmental impacts to consider.

Recommended Alternative.
These reviews must be conducted in parallel, so that BLM and other federal land management decision makers will use the same NEPA environmental information to make their decision.

There are two ways to accomplish this, one would be to separate each project, in general, into each having a Southern Arizona and a New Mexican segments. The NEPA process may result in different project proponents determined as the preferred Alternatives for each segment.

Conclusion.
These NEPA processes must be synchronized and performed in parallel so federal land managers and the Arizona and New Mexican siting authorities consider the same environmental information for decision making.

Recommendation.
BLM should expedite the Southline project NEPA process and slowdown the SunZia process so that decision makers can have the appropriate, and information necessary. Only one Southern Arizona project is necessary.

Enclosure (3)

Issue 3

Consider the ACCR Conductor

Background.
The 3M Company composite transmission line Aluminum Conductor Composite Reinforced (ACCR) conductors are lighter, stronger, carries more power, and requires smaller and lighter supporting structures.

Existing Situation.
Western has used ACCR for 230 kV transmission lines in Arizona. See Attachment 1.

Planned Solution.
Consider, as an Alternative, use of the ACCR conductors for this transmission line system and compare with others commonly used. Attachment 1 show that ACCR conductors compare favorably with expected results in the high temperatures in the Southwest.

Benefits.
The ACCR Conductor will allow more power, using lighter lines, smaller infrastructure, with longer spans between towers.

Recommended Alternative.
Based on the attached, tests and other data, the ACCR conductor will be satisfactory and appears to be better than other Alternative conductors. The Draft EIS should compare transmission line systems with and without the ACCR conductors, as the environmental impacts will be different if ACCR is chosen compared to the other conductors.

Issue 3 - Attachment 1
News Release: “3M’s New High-Capacity Overhead Conductor is Chosen by Western Area Power Administration to Boost Electricity Transmission on Key Line Along Colorado River in Arizona” of 15 June 2005.

Issue 3 - Attachment 1
FOR IMMEDIATE RELEASE

3M's New High-Capacity Overhead Conductor is Chosen by Western Area Power Administration to Boost Electricity Transmission on Key Line Along Colorado River in Arizona

- Twenty-Mile Installation is First Stage of Upgrade from Topock Substation to Lake Mead, Using Existing Towers; Western is Second Major Utility to Apply ACCR as Bottleneck Solution -

ST. PAUL, Minn. – June 15, 2005 – The Western Area Power Administration (Western), which delivers about 40 billion kilowatt-hours of hydroelectric power annually in 15 western and central states, has chosen 3M's new breakthrough metal matrix, high-capacity electricity conductor to replace a key conventional power line in western Arizona.

Western is one of four power marketing administrations within the U.S. Department of Energy, and serves nearly 700 wholesale power customers in a 1.3 million-square-mile area, including some 300 municipalities, as well as public utilities and utility districts, energy cooperatives, power marketers, irrigation districts, Native American tribal communities and government agencies.

Western becomes the second major utility to deploy 3M's Aluminum Conductor Composite Reinforced (ACCR) to boost transmission capacity to accommodate growing demand. The ACCR, which is heat-sag resistant, can carry more than twice the power of conventional lines of the same diameter, without requiring new or larger towers. In addition, this revolutionary metal composite material can help overcome aging concerns associated with organic-based polymer composites. The ACCR was developed as a solution to thermally constrained transmission bottlenecks that increasingly have plagued electricity grids in recent years, causing brownouts and blackouts across the country.

Xcel Energy, which serves 3.3 million electricity customers in 11 states, activated its first ACCR line in the Minneapolis-St. Paul metropolitan area in May, becoming the first commercial user of 3M's new composite conductor technology.

Both Western and Xcel were among several utilities that field-tested the ACCR in a broad range of rugged conditions over several years during the product's development stage. It was also tested extensively at the Department of Energy's Oak Ridge National Laboratories.

"It's extremely gratifying that two major utilities that tested the ACCR are putting it to use commercially," said Tracy Anderson, business development manager for 3M's composite conductor program. "Exhaustive test data have been compiled in the field, under actual local operating conditions, demonstrating that the ACCR does everything expected of it. We believe it will make an important contribution to strengthening the national grid."

A 230-kV ACCR will be installed initially on a 20-mile stretch of the Topock-Davis line, which parallels the Colorado River along Arizona's western border with California. Eventually, the new conductor will be extended northward an additional 60 miles to Lake Mead at Boulder Dam, in Nevada. The area of service includes fast-growing communities such as Lake Havasu City, Kingman and Bullhead City in Arizona; Laughlin, Nev.; and Needles, Calif.

Installation is expected to begin in January 2006 and be completed by April 2006. The line being replaced by the ACCR was installed in the 1950s, when the region along the Colorado River was sparsely populated.

The ACCR, a new type of bare overhead conductor containing a multistrand core of heat-resistant aluminum matrix composite wires, retains its strength at high temperatures and is not adversely affected by environmental conditions, such as moisture or UV exposure. Its lightweight and reduced thermal expansion properties allow the conductor to be installed on existing towers, and requires no visual changes to a line or additional rights of way. The power line has been proven under a broad range of extreme conditions, such as saltwater corrosion, high winds, vibration, and extreme heat and cold.

3M teamed with various companies, whose expertise in certain components helped to make 3M's ACCR viable. Key contributors include Wire Rope Industries, Nexans Inc., Preformed Line Products Co. and Alcoa Conductor Accessories. Organizations playing key supporting roles in laboratory and field testing of the technology include: National Electric Energy Testing, Research and Applications Center (NEETRAC); Kinectrics; Oak Ridge National Laboratory; the U.S. Department of Energy; and Western Area Power Administration.

The technology has been recognized by R&D Magazine with an R&D 100 award as one of the most technologically significant products introduced into the marketplace and by the Minnesota High Tech Association with a Tekne Award for innovative development.

More information about the 3M Composite Conductor is available at www.3M.com/accr. About 3M -- A Global, Diversified Technology Company

Every day, 3M people find new ways to make amazing things happen. Wherever they are, whatever they do, the company's customers know they can rely on 3M to help make their lives better. 3M's brands include Scotch, Post-it, Scotchgard, Thinsulate, Scotch-Brite, Filtrete, Command and Vikuiti. Serving customers in more than 200 countries around the world, the company's 67,000 people use their expertise, technologies and global strength to lead in major markets including consumer and office; display and graphics; electronics and telecommunications; safety, security and protection services; health care; industrial and transportation. For more information, including the latest product and technology news, visit www.3M.com.

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ATTACHMENT (2)

Bonneville Power Administration
"Living and Working Safely Around High-Voltage Power Lines"