

From: [Meredith Griffin](#)
To: [Peggy Fry](#)
Subject: FW: APS Comments on the Sun Valley to Morgan 500/230kV DEIS and DRMPA
Date: Monday, February 11, 2013 11:56:45 AM
Attachments: [130208 APS SV2M DEIS Comments.pdf](#)

From: Ellen Carr
Sent: Friday, February 08, 2013 2:30 PM
To: Meredith Griffin
Subject: FW: APS Comments on the Sun Valley to Morgan 500/230kV DEIS and DRMPA

From: Richard.Stuhan@aps.com [<mailto:Richard.Stuhan@aps.com>]
Sent: Friday, February 08, 2013 2:26 PM
To: jincardi@blm.gov; kdepukat@blm.gov
Cc: gbrown@jbrenv.com; sdavis@jbrenv.com; Ellen Carr
Subject: APS Comments on the Sun Valley to Morgan 500/230kV DEIS and DRMPA

Joe and Kathy,

I have attached the APS comments on the Sun Valley to Morgan 500/230kV Transmission Line Project Draft Environmental Impact Statement and Draft Resource Management Plan Amendment. I am sending a hard copy as well to the BLM Phoenix District Office. APS respectfully requests the attached comments be considered for inclusion in the final EIS. Please feel free to contact me with any questions or concerns with the comments.

Thank you,

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February 8, 2013

Joe Incardine
National Project Manager
BLM Phoenix District Office
21605 N 7th Avenue
Phoenix, AZ 85027-2929

Re: Comments on Draft Environmental Impact Statement (DEIS) for the Proposed APS Sun Valley to Morgan 500/230kV Transmission Line Project and Draft Resource Management Plan Amendment (DRMPA)

Dear Mr. Incardine:

Arizona Public Service Company (“APS” or “Company”) thanks the BLM and its team for the hard work and commitment performed on the DEIS and DRMPA for the APS Sun Valley to Morgan project. APS supports the Bureau of Land Management’s (“BLM”) identification of the Proposed Action route as the Agency Preferred Alternative as it is consistent the decision of the Arizona Corporation Commission (Decision No. 70850, March 17, 2009). The Company believes the Agency Preferred Alternative is responsive to the need for increased electrical transmission capacity, provides opportunity for access to renewable electric generation sources, helps to relieve electrical transmission congestion, and increases reliability for the transmission system in Arizona.

The Company appreciates the opportunity to comment on the DEIS and DRMPA for the APS Sun Valley to Morgan project (“Project”). Below, APS has included suggested revisions to DEIS and DRMPA. These suggestions focus primarily on topics specific to APS construction standards and APS operations and maintenance practices, as well as several areas of the impact analyses. The Company has organized its comments in a Section by Section review, noting references to subsequent areas of the DEIS and DRMPA that include the same or similar issue or topic. The Company’s comments begin below.



APS Comments to Executive Summary

Section ES.4.4, page ES-7 does not clearly differentiate where the federal ROW is needed. APS requests that this section be revised to clearly explain that a federal ROW is needed for Alternative 3.

In Section ES.6.1, page ES-9 the phrase “routine watering” is not defined. This could be clarified by adding a reference to Appendix 2A for details.

Section ES.6.2, page ES-9, does not reflect current BLM and SHPO consultation information. APS requests the text be revised to read: “Ten National Register-eligible cultural resource sites

(i.e., historic properties) are known to be within the Proposed Action route. These include three historic sites, five prehistoric sites, and two multi-component sites.”

With respect to Section ES.6.2, APS requests revising the second and third paragraphs on page ES-10 (Cultural Resources section) to read: “Operation, maintenance, and abandonment of the transmission line are not anticipated to cause direct impacts in addition to those resulting from construction, but if BLM and ASLD conclude that National Register-eligible properties might be threatened, BLM and ASLD will work with APS to implement measures to avoid adverse impacts. BLM and/or ASLD staff, perhaps assisted by Arizona Site Stewards program volunteers, would conduct long-term monitoring as warranted.”

Section ES.6.6, page ES-12, the second sentence of the last paragraph suggests that EHV lines attract lightning, therefore increasing lightning strike risk in the surrounding area. This is not true. APS recommends removing the following sentence in that paragraph: “Physical presence of the transmission line may increase the likelihood of lightning strikes in the vicinity of the transmission line and structures, which would lead to a small increased risk of lightning caused fires along the entire route of the Project.”

In Section ES.6.11, page ES-15, APS recommends that the following text be inserted at the end of the first sentence in the second paragraph: “to the extent practicable.” APS also requests that the second sentence of that same paragraph be revised to note that in some instances construction access roads outside of the transmission line ROW would be used on an ongoing basis for operations and maintenance.

In Section ES.6.14, page ES-18, APS recommends that the second sentence of the fourth paragraph be revised to say: “To the extent practical, all washes would be spanned.”

Chapter 1 – Introduction, Purpose and Need

In Section 1.1.1, page 1-1, APS requests that its name be revised to say “Arizona Public Service Company.”

Section 1.1.2 implies that APS did not participate in the development of the Bradshaw-Harquahala Resource Management Plan. APS requests that this section be revised to clarify that APS did participate and provide comments during the development of the RMP, including submittal of a letter identifying the area along SR 74 as a potential future utility corridor.

In Section 1.5.4, page 1-14, APS requests that the ”State Historic Preservation Act (A.R.S. 41-861 to 41-864)” be inserted as a regulatory requirement column revision to the first line of Table 1.5-3 by adding to the third column of table because that statute also stipulates consultation with the SHPO for projects on state land.

Also in Section 1.5.4, page 1-14, APS requests a revision to Table 1.5-3 by inserting a line after the first entry to indicate an Arizona Antiquities Act permit would be required from the Arizona

State Museum pursuant to the Arizona Antiquities Act (A.R.S. 41-841 to 41-847) for investigation of archaeological, historical, and paleontological sites and objects on state land.

Chapter 2 – Proposed Action and Alternatives

In Section 2.3.2, page 2-5, there are examples of short-term ROWs that may be necessary as part of the Project. This comment is intended to clarify that the list of examples is not complete, i.e., geotechnical testing and other temporary or short-term uses of public land are not listed.

In Section 2.4, page 2-6, the second paragraph states the transmission line “would be constructed on single-pole steel structures...” implying that no other structure types would be used. However, elsewhere in the document the potential for different structures is mentioned. Therefore, APS requests this sentence be revised to read “...would typically be constructed...”

In Section 2.4, page 2-6, in the second sentence of the second paragraph replace the word “would” with “may.”

In Section 2.4, page 2-7, the text in Table 2.4.1 identifies the 230kV circuit as using a single circuit per phase. However, APS is considering using either a single or a two bundle conductor option as described in Section 2.4.1.2. APS requests the text in the table be revised to be consistent with the text in Section 2.4.1.2.

In Section 2.4.1.1, page 2-7, the text states “self-weather finish available for tubular steel structures only this finish is not available for lattice structures.” APS requests a sentence be added to clarify that the pole structures would be dulled galvanized or self-weathering steel, as the self-weathering finish is not available for lattice structures, which will have a galvanized finish.

In Section 2.4.1.1, page 2-7, the text states structure type selection will include “...coordination with underlying land owner.” APS does not intend to coordinate various structure types with private landowners along the route, though does commit to coordination with the appropriate land-managing agency. Similar language occurs throughout the document and APS requests a change be made to this section and conforming change in the document as a whole.

In Section 2.4.1.2, page 2-8, APS requests a revision to clarify that the Project *could* include two 96-pair fiber optic/static neutral cables or a single 96-pair fiber optic/static neutral cable with a single steel static shield wire. That is, APS may need only one fiber optic cable for both the 500kV and 230kV circuits, but a static shield wire would then be installed above the 230kV circuit.

In Section 2.4.1.3, page 2-9, APS requests a revision to clarify that APS does not intend to use gravel at drainage crossings. APS requests the following change: “Graveling dirt access roads is not anticipated or proposed, although it may be necessary where access roads intersect paved roads to prevent track out.”

The following statement in Section 2.4.1.3, page 2-9, reads as though BLM is authorizing a separate ROW for the permanent construction access road: “A 14-foot wide permanent access route parallel to the transmission line within the ROW would provide construction access, and would require authorization on associated BLM lands.” APS requests that this sentence be restated to clarify that the 14-foot-wide permanent access road would be within the granted ROW and when temporary construction access or access for operations and maintenance outside of the ROW is necessary, authorization would be required on associated BLM lands.

In Section 2.4.1.3, page 2-9, in the second sentence of the second paragraph, APS requests that the phrase “avoid impacts” be replaced with “minimize impacts.” In Section 2.4.1.3, page 2-9, and throughout the document, the text refers to the “underlying land owner” (or “land owner”), when it would be more appropriate to reference an agency with jurisdiction. Specifically, the statement that “APS would coordinate with ADOT...” should be modified to explain that paved acceleration and deceleration lanes would be removed if required by the entity with jurisdiction over the roadway. APS recommends that the use of the term “land owner” be reviewed throughout the document.

In Section 2.4.2.1, page 2-10, APS requests the statement regarding the transportation of structure components and associated hardware be clarified to include transportation by truck or other means of transportation, including helicopter use.

In Section 2.4.2.1, page 2-10, the sequence of activities described in the first paragraph is a typical sequence; therefore, APS requests that the word “would” be changed to “could.”

In Section 2.4.2.2, page 2-12, the document states that “water would be applied on a continuous basis in areas of construction and at least three to four times daily in non-active construction zones for dust control purposes.” However, the objectives of dust control may be met through a variety of measures, as contemplated by the mitigation measures included in Section 2.9.1. APS requests that Section 2.4.2.2 be revised to be consistent with Section 2.9.1.

In Section 2.4.2.4, page 2-13, the Stormwater/Wastewater Management and Erosion Control text describes wastewater would be generated during construction from concrete loads emptied from trucks and from washing construction equipment, which if required, would be performed offsite. The subsequent sentence indicates that wastewater would be managed such that there would be no discharge offsite, which appears contradictory. This comment is intended to clarify that APS would manage wastewater from concrete truck washdown and cleaning of construction equipment such that there would be no discharge to surface waters.

In Section 2.4.2.4, page 2-15, the description of native plant protection appears to be broader than what is explained elsewhere in the document. This comment intends to clarify that APS would comply with the Arizona Native Plant Law and, to the extent feasible, minimize the destruction of protected native plants during Project construction.

In Section 2.4.2.4, page 2-15, the text states that nursery locations would be identified for salvaged plants. This comment intends to clarify that APS may relocate salvaged plants to the edge of the ROW as an option to establishing nursery locations.

In Section 2.4.2.5, page 2-16, the description of lattice structure assembly does not include the potential for assembling the structures at each site. This comment is intended to clarify that APS may either assemble the structures in sections in the laydown area then transport the sections for assembly at the structures sites or APS may do the full structure assembly at each structure site.

In Section 2.4.3.4, pages 2-21 and 2-22, APS suggests noting that the vegetation clearance distances may change from those listed in the Draft EIS in tables 2.4-5 and 2.4-6. Over the life of the Project, APS will follow current industry standards and regulatory requirements. APS is required to control vegetation in proximity to high-voltage transmission lines in conformance with NESC and NERC (FAC 003) Standards. Additionally, the information regarding the desired outcome of Integrated Vegetation Management is provided in Section 4.13.2.1, and need not be repeated within the description of the proposed action.

In Section 2.8, Table 2.8-1, and the supporting information from Section 4.9.2.2, page 4-79, indicates that The Boulders Staging Area access road would be crossed by the ROW; this crossing is not depicted on Figures 3.9-2 and 3.9-3, which indicates the access road likely would not be crossed by the ROW. Therefore, APS requests that this section be revised to indicate that no impacts would occur during construction to the Boulders Staging Area access road during construction. Similarly, the impacts noted in Table 2.8-1 should be revised accordingly.

In Section 2.8, page 2-68, APS suggests correcting the site counts in Table 2.8-1. The second line (Prehistoric) under Proposed Action column should be 5 (not 4) and the entry in the Alternative 2 column should be 4 (not 3).

In Section 2.8, page 2-76, Table 2.8-1 presents indicators to compare the impacts of the alternatives. It seems unclear why, under the Land Use and Range resources, the indicator “Compliance with Land Management Plans and Zoning” does not include information related to the local land use plans of Buckeye, Surprise, and/or Peoria, yet such plans are included as an indicator under visual resources. APS requests that these analyses be revisited and that the document articulate consistency or conflict with the respective jurisdictional plans for land use and visual resources for each alternative.

Chapter 2 – 2.9 Monitoring and Mitigation

APS recognizes the text on monitoring and mitigation is repeated from various sections of Chapter 4 of the DEIS, therefore, comments below apply to both Section 2.9 and the applicable section of Chapter 4.

In Section 2.9.2, page 2.81, to be consistent with discussion of best management practices in Appendix 2A, APS requests the second sentence of third paragraph on page 2-81 be revised to read: “Procedures for scientific investigations, reporting, and long-term preservation of data and collections would be specified in a Historic Properties Treatment Plan implemented in accordance with the terms of a Section 106 Memorandum of Agreement (MOA) executed to address any identified adverse effect.” (MOA should be added to the list of acronyms.)

In Section 2.9.2, page 2-81, APS requests that the second paragraph be revised as follows: “Under the Proposed Action, Alternative 1, or Alternative 2, spanning the historic properties near the Agua Fria River may not be possible. If not, supplemental Class III cultural resource survey would be conducted so that options for avoiding impacts by shifting the alignment to the east could be considered.”

In Sections 2.9.6 and 4.7.3.1, pages 2-82 and 4-72, under the General heading, second paragraph, the mitigation lacks measurable definition; APS suggests mitigation be consistent with the State approval of the Project. As required by the Arizona Corporation Commission (ACC), through the conditions of a Certificate of Environmental Compatibility (CEC), APS shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the transmission line and related facilities addressed in the CEC. APS shall maintain written records for a period of five years of all complaints of radio or television interference attributable to operation, together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution shall be noted and explained.

In Section 2.9.6, pages 2-82 (and also in the Executive Summary) and subsequent impact analyses in Section 4.7, the text reads that construction activities would be confined to the hours of 7:00 am to 7:00 pm as typical or normal working hours. While this generally may be the case, it may not apply to all construction activities, which could begin earlier, particularly when sunrise occurs prior to 7:00 am. Typical summer hours could be 5:00 am to 4:00 pm while typical winter hours could be 6:00 a.m. to 5:00 pm. This comment is intended to clarify that APS would restrict noise-generating construction activities, such as the use of heavy equipment or helicopters, within 0.5-mile of residential areas to the hours of 7:00 am and 7:00 pm.

With reference to Section 2.9.6, page 2-82, APS suggests clarifying that the contractor safety requirements in the appendix of the POD would typically be employed during construction and APS employees receive annual health and safety training, which includes fire prevention and response. These requirements, together with information described in the Health and Safety Plan (and Emergency Response Plan) will cover fire protection efforts associated with this Project. That is, project-specific fire prevention and response training is not proposed. APS expects to provide updated information in the H&S Plan as part of the POD.

In Sections 2.9.8 and 4.9.3, pages 2-83 and 4-88, the DEIS suggests that no use of any single-track routes would occur for construction. While generally, this is APS’ intent, there may be a need to cross one or more single-track routes for construction access, depending on final design and mitigation requirements associated with other resources. In the event a single-track route is crossed, APS would provide barriers, such as fencing, to restrict access to the ROW from the single-track route (similar to what would be implemented at four-wheel OHV access route crossings), to the extent practicable.

In Section 2.9.12 and 4.13.3.1 the text states: “The area around transmission line structures and abandoned access roads would be reclaimed according to BLM stipulations in the ROW grant.” The statements would be clarified with a reference to the reclamation plan. APS suggests the

following clarification: “Areas of temporary disturbance, identified in Table 2.4-4, would be reclaimed according to BLM stipulations in the ROW grant and the final reclamation plan.”

In Sections 2.9.12 and 4.13.3.1, the text identifies restoration mitigation for areas of significant ground disturbance or recontouring. APS does not anticipate significant ground disturbance as a result of the proposed action and requests deleting the term “significant for ground disturbance”, and if appropriate, reference the reclamation plan.

In Sections 2.9.12 and 4.13.3.1, the text states: “...all existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.” APS requests revising this sentence to clarify ‘equal or better condition’ and the criteria by which existing roads could be subject to this mitigation.

In Sections 2.9.12 and 4.13.3.1, the text state: “Species protected by the Arizona Native Plant Law would be relocated and transplanted.” APS understands that there are several levels of protection under the Arizona Native Plant Law, not all levels provide the same types of protection. The Arizona Native Plant Law does not prohibit the destruction or require relocation and transplantation of protected plant species. As written, this mitigation could require more relocation and transplantation of protected plant species than required by law. APS requests clarification that the intent is for APS to abide by the Arizona Native Plant law.

In Sections 2.9.15 and 4.16.3, the text requires monitoring of ground clearing/disturbing activities that could affect special status species. It is unclear what criteria would be used to identify where monitoring would occur, what the monitoring program would include, and where along the proposed ROW such monitoring is warranted. This should be clarified.

In Sections 2.9.15 and 4.16.3.1, the text requires compensation for desert tortoise habitat loss. APS requests that it be clarified that this would apply only to tortoise habitat loss on BLM-administered land. In addition, other mitigation measures referencing the *Final Report on Compensation for the Desert Tortoise* or *Desert Tortoise Habitat Management on Public Lands in Arizona* apply only to BLM-administered land.

Sections 2.9.15 and 4.16.3.1 specify the speed limit of 20 mph as mitigation to reduce potential impacts on desert tortoise. Rather than installing signs, APS suggests this mitigation be achieved through a Best Management Practice that prescribes speed limits for all unpaved construction and maintenances access roads.

In Section 2.9.13, page 2-87, last paragraph, implies that individual landowners will be consulted to arrive at an amicable decision regarding design and infrastructure type. Rather, APS will consult land-managing agencies in the decision making process.

Chapter 3 – Affected Environment

In Section 3.3.5.1, page 3-27, to reflect accurate site count, APS requests revising the second paragraph to read: “A total of 27 archaeological and historical sites have been identified along the Proposed Action route (Table 3.3-1). The sites included seven prehistoric sites, 18 historic

sites, and two sites with both prehistoric and historic components. Six of the sites are on public land managed by BLM, 18 are on state land, one is on privately owned land and two overlap state and privately owned land.”

In Section 3.3.5.1, page 3-27, to reflect BLM and SHPO consultation, APS requests revising the second paragraph to read: “BLM, in consultation with the SHPO, determined that 10 of these sites are eligible for the National Register. Five of the six prehistoric sites and the two prehistoric components of the multicomponent sites AZ T:3:350(ASM) and AZ T:3:351(ASM) were determined eligible under Criterion D for their potential to yield important information about the prehistoric occupation of the region. . . . Four other Hohokam sites along the Agua Fria River, including sites AZ T:3:11 and 353(ASM) and multi-component sites AZ T:3:350 and 351(ASM) also might have buried features or could be temporary, limited activity sites.”

In Section 3.3.5.1, page 3-28, APS requests revising:

- third line of third paragraph to indicate correct date as follows: “. . .developed between 1912 (not 1921) and 1955 . . .”
- paragraph 4 to read: “The other 15 historical sites are evaluated as ineligible for the National Register. Five of those sites are dumps or scatters of domestic trash with no features other than artifact concentrations: AZ T:2:145, 146, and 147(ASM), AZ T:3:347(ASM), and AZ T:6:137(ASM). . .”
- paragraph 5 to read: “Seven of the remaining historic resources are roads. No artifacts have been recorded along three of those: AZ T:3:200, 201, and 256(ASM). . .”
- paragraph 6 to read: “. . . to postdate 1940. Site AZ T:6:138(ASM) has a shallow pit that might reflect prospecting activity. Further study of these sites”

In Section 3.3.5.2, page 3.29, APS suggests correcting site count in paragraph 3 from “17 sites” to “21 sites.”

In Section 3.3.5.3, page 3-29, APS suggests correcting the site count in the first sentence of paragraph 5 from “Nineteen” to “Twenty-three.”

In Section 3.3.5.4, page 3-29, APS suggests correcting the site counts in second sentence of paragraph 7 from “Sixteen archaeological” to “Eighteen archaeological.”

In Section 3.3.5.4, page 3-30, APS suggests correcting the site counts in paragraph 2 to read: “All 14 historical resources . . . The other 11 historical resources are evaluated as ineligible . . . Those ineligible historic resources included six dumps or scatters of circa 1920s to 1960s domestic trash: AZ T:2:144, 145, 146, 147, and 148(ASM), and AZ T:6:137(ASM). Four of the other ineligible historic resources are minor local roads, AZ T:3:200, 201, 344, and 353(ASM). . . and cross the Alternative 3 route. Site AZ T:6:138(ASM) has a shallow pit that may be related to prospecting.”

In Table 3.3-1, page 3-31 and 3-32, the table is missing entries for four sites:

Lake Pleasant Road/AZ T:3:256(ASM), Historic Road, Not eligible, along Proposed Action, Alt. 1, and Alt. 2 routes

AZ T:3:353(ASM)/AZ T:3:30(ASU), Prehistoric habitation site, Eligible, along Proposed Action, Alt. 1, and Alt. 2 routes

AZ T:6:137(ASM), Historic Trash, Not eligible, along Proposed Action, Alt.1, Alt. 2, and Alt 3 routes

AZ T:6:138(ASM), Historic, possible prospecting site, Not Eligible, along Proposed Action, Alt. 1, Alt. 2, and Alt. 3 routes

The totals for the columns should be Proposed Action - 27 (not 23), Alt. 1 - 28, Alt 2 - 20, and Alt 3 –18. Suggest revising note: These 21 sites are along the Alternative 1 route outside the 0.5-mile.

In Section 3.6.3.2, page 2-98, additional information should be included regarding the ACC Biennial Transmission Assessment (BTA) within the paragraph related to the ACC. The BTA process requires transmission providers to file a 10-Year Plan every January 31 with the ACC. Biennially, the ACC assesses the 10-Year Plans to determine the adequacy of the existing and planned facilities in the state to reliably meet the present and future energy needs of the state. The analysis is guided by Arizona best engineering practices coupled with the use of regional and national reliability council criteria and standards. The Sun Valley to Morgan Project has been included in the Company's 10-Year Plan filings and has been found to be beneficial to the reliability needs of the Project area.

In Section 3.6.3.4, page 3-56, the description of future utilities includes only a 230kV line from the future Sun Valley Substation to the future Trilby Wash Substation. This comment is intended to clarify that APS has planned and completed the permitting for a new 500kV transmission line from the Palo Verde Generating Station area to the future Sun Valley Substation (through the future Delaney Substation), which provides one potential source of power that would be carried through the connection between the Sun Valley and Morgan substations.

In Section 3.6.2.7, Table 3.7-7 does not include the units from the distance from structure, which should be noted as feet based on the information included in APS' CEC Application (URS 2008). In addition, APS requests that the values for the distance from the structure be corrected to be consistent with the referenced document, and read as follows (which would represent the worst-case scenario at the edge of right-of-way for the transmission lines):

| Section | Distance from Pole (ft) | Expected E Field (kV/m) | Expected Magnetic Field (mG) |
|---|-------------------------|-------------------------|------------------------------|
| 1 – Paralleling Planned West Valley North 230kV Project | 100 | 0.25 | 8 |
| 2 – Paralleling Existing Mead-Phoenix 500kV Line | 260 | 2 | 18 |
| 3 – No Other Paralleling Lines | 60 | 1.5 | 9 |
| <i>ICNIRP (2010) Public Limits at 60 Hz</i> | | 4.17 | 2,000 |

Chapter 4 – Environmental Consequences

In Chapter 4, as well as other areas of the document where mitigation measures are described, APS requests that the document clearly state which mitigation measures apply to BLM administered land, State Trust land, and private land, as requirements may vary based on jurisdiction.

In Section 4.3.2.1, page 4-25, the text requires that construction work within a 50-meter area cease if unanticipated cultural resource discoveries occur. The term “area” is unclear. This comment is intended to clarify that APS would cease construction activities within 50 feet from the boundary of the discovery.

In Section 4.3.2.1, page 4-25, the cultural resource Monitoring and Discovery Plan discussed in the second paragraph of the Construction section is not tied to a MOA intended to address a Section 106 adverse effect. The last sentence of the section indicates that BLM might not make a determination of an adverse effect (and therefore an MOA would not be needed) if all National Register eligible properties can be avoided by construction activities. APS requests that the paragraph be revised to read: “All sites would be avoided where practicable by Project design, such as locating transmission towers, access routes, and other facilities outside site boundaries; or by using helicopters for construction in sensitive areas. If avoidance is not feasible due to technical issues or resource conflicts, BLM would develop a MOA to address the adverse effect. Regardless of whether an MOA is required, BLM and ASLD would work with APS to develop a Discovery Plan, and if warranted a Monitoring Plan, which would define procedures for evaluating and treating discoveries of unrecorded cultural resources or recognition of unanticipated adverse effects.” Start new paragraph with “[Ten] National Register-eligible cultural resource sites . . .”

In Section 4.3.2.1, page 4-25, APS requests the site count be changed from “Nine” to “Ten” in the last complete sentence.

In Section 4.3.2.1, page 4-26, APS requests the site count be changed from “four” to “five” in the first sentence as follows: “. . . and the Beardsley Canal), five prehistoric sites (AZ T:3:10(ASM), AZ T:3:11(ASM), AZ T:3:325(ASM), AZ T:3:348(ASM), and AZ T:3:353(ASM), and . . .”

In Section 4.3.2.1, page 4-26, a cultural resource Monitoring and Discovery Plan discussed in the second paragraph of the Operations, Maintenance, and Decommissioning section is not tied to a MOA intended to address a Section 106 adverse effect. The last paragraph of the previous section indicates that BLM might not make a determination of adverse effect (and therefore an MOA would not be needed) if all National Register eligible properties can be avoided by construction activities. APS requests revising the paragraph to be consistent with Section 2.9.2 to read: . . . Procedures would be implemented, as warranted, to ensure that if any National Register-eligible properties in the ROW are designated for avoidance by construction activities, and that they would not be inadvertently damaged during operation, maintenance, and decommissioning of the project. If BLM and ASLD conclude that National Register-eligible properties might be threatened, BLM and ASLD would work with APS to implement measures to avoid adverse impacts. BLM and/or ASLD staff, perhaps assisted by Arizona Site Stewards program volunteers, would conduct long-term monitoring as warranted. Long-term monitoring on privately owned land would be at the discretion of the land owner.

In Section 4.3.2.3, page 4-29, APS requests the site count be changed from “Eight” to “Nine” in the first sentence to read: “Nine National Register-eligible cultural resources . . .”

In Section 4.3.3, page 4-31, to clarify responsibility for implementing long-term Monitoring and Discovery Plan, APS requests that the last sentence in first paragraph be revised to read: “BLM and/or ASLD staff, possibly assisted by Arizona Site Steward Program volunteers, would monitor and document the condition of National Register-eligible properties within the ROW as warranted.” APS also requests that second paragraph be revised to read: “If not, supplemental Class III cultural resource survey would be conducted so that options for avoiding impacts by shifting the alignment to the east could be considered.”

In Section 4.3.3, page 4-32, second sentence of second paragraph, APS requests that the terms “Data Recovery Plan” be replaced with “Historic Properties Treatment Plan” so that it is consistent with discussion of best management practices in Appendix 2A.

In Section 4.6.1, page 4-52, the analysis states that the permanent access road would be constructed within the ROW along the centerline of the ROW. This comment is intended to clarify that APS will locate the permanent access road within the transmission line ROW to the extent practicable, the road may not be along the centerline; however, the road will be located where appropriate with consideration of engineering and environmental constraints, and associated mitigation.

In Section 4.9.2.2, page 4-79, the analysis indicates that The Boulders Staging Area access road would be crossed by the ROW; this crossing is not depicted on Figures 3.9-2 and 3.9-3, which indicates the access road likely would not be crossed by the ROW. APS requests that this sentence be clarified to indicate no impacts would occur during construction to the Boulders Staging Area access road during construction. Similarly, the impacts noted in Table 2.8-1 should be revised accordingly.

In Section 4.10.2.2, page 4-99, the analysis states, “Offsetting the loss of future development would be the lease revenue that APS pays annually on State Trust lands to the ASLD.” This comment is to clarify that APS anticipates making a one-time rental payment to ASLD for the entire lease term, assumed to be perpetual. The total costs presented in Table 4.10-1, which were provided by APS, include this lease payment.

In Sections 4.12.2.1 and 4.12.3, the analysis suggests a long-term adverse effect on the Thunder Ridge Airpark, and that mitigation would include installing spherical markers and lighting as directed under FAA Advisory Circular AC 70/7460-1K. APS believes that the use of spherical line marker balls would not be required and requests that the analysis reflect that the use of marker balls would be strictly voluntary. APS has completed an independent review of this analysis with the following assumptions and conclusions.

Assumptions:

- The closest portion of the proposed 165-foot Above Ground Level (AGL) transmission line, its associated support pole structures, guys and right-of way that are proposed to be in proximity to the Thunder Ridge Airpark would be situated approximately 0.33 miles to the east and would run generally parallel to the Airpark’s single 2,600-foot paved north/south runway and its extended runway centerline. Beginning at a point northeast of the Airpark, the proposed transmission line would transition from a south-to-north direction to a west-to-east direction.
- The Airpark is listed as “Private Use” facility that is currently limited to Visual approach and departure operations on Runway 17/35. It is assumed that aeronautical activity at the Airpark is limited to Visual operations that are typically generated by single-and/or light multi-engine propeller-driven general aviation aircraft along the extended Runway 17/35 centerline. Visual operations to and from Runway 17 currently utilize a published standard left-hand Airport Traffic Pattern. Visual operations to and from Runway 35 currently utilize a published nonstandard right-hand Airport Traffic Pattern. The maximum AGL height of the Downwind leg of each Airport Traffic Pattern (left or right) may possibly range from 800 to 1,000 feet.

Conclusions:

- Visual arrival operations to Runway 17 (from the north to the south) would be executed using a standard left-hand Base-to-Final turn that would be begin well north and east of the portion of the transmission line in proximity to the Airpark. It is assumed that pilots transition from the Base to Final descending approach segments of the Visual approach north of the Airpark at AGL heights ranging from 500 feet to 250 feet. Utilizing a standard 3- degree 1- to 0.75-mile Final approach glide path, Visual approach operations would not be adversely affected by the proximity or height of the transmission line located to the east. When executing Visual departure operations from Runway 17 (from the north to the south), it is assumed that pilots will utilize a standard left-hand climbing Crosswind turn to the east that would most likely be initiated at AGL heights ranging

from 500 to 800 feet that would be greater than the proposed 165-foot AGL height of the transmission line and support towers.

- Visual arrival operations to Runway 35 (from the south to the north) would be executed using a nonstandard right-hand Base-to-Final turn that would begin well east of south-to-north portion of the transmission line. It is assumed that when aircraft pilots transition from the Base to Final approach segments directly over the north/south segment of the transmission line, the descending aircraft will be at AGL heights ranging from 500 feet to 250 feet. Utilizing a standard 3-degree 1- to 0.75-mile Final approach glide path, Visual approach operations would not be adversely affected by the proximity or height of the transmission line located to the east. When executing Visual departure operations from Runway 35 (from the south to the north), it is assumed that pilots will utilize a non-standard right hand climbing Crosswind turn to the east the will begin well north of the west-to-east portion of the transmission line at AGL heights ranging from 500 to 800 feet.
- The runway, because it is designated as a “Private Use” facility, does not have FAA-prescribed trapezoidal CFR Part 77 Civil Airport Imaginary 20:1 Approach Surfaces that would, if applicable, extend outward and upward from each end of the associated Primary Surface 200 feet beyond of each end of the runway.
- The use of spherical line marker balls would not be required, and should be considered strictly voluntary.

With regard to Section 4.13.2.1, pages 4-131 and 4-132, APS will be submitting to the BLM a revised \ Vegetation Management Program (VMP), which is intended to replace Appendix 2B and will be incorporated in APS’ Plan of Development for the Project.

In Section 4.18.2, page 4-202, APS requests revising Section 4.18.2 to acknowledge that long-term productivity of cultural resources is a possibility. The revised statement could read: “The Project could result in physical destruction of National Register-eligible archaeological sites, which would be short-term use. Although impacts would be mitigated by recovery and preservation of artifacts and information, the long-term productivity of the archaeological record would be reduced because the sites would not be available for future investigations, when research methods and procedures might be improved.”

In Section 4.19.4, page 4-214, APS requests the site count in second paragraph be changed from “up to six to nine sites” to” up to 10 sites...”

Chapter 5 – Consultation and Coordination

In Section 5.5, page 5-8, and in Chapter 6, page 608, APS notes that the title of BLM Manual 8120 is more correctly referred to as *Tribal Consultation under Cultural Resource Authorities*.

Appendix 2A

APS requests the second sentence under Cultural Resources section of Appendix 2A be revised to read: If needed, the Memorandum of Agreement would be on file Similarly, the use of “Programmatic Agreement” in the parenthetical sentence at the end of the section on page 2A-5 is contradictory. APS request that entire sentence be deleted.

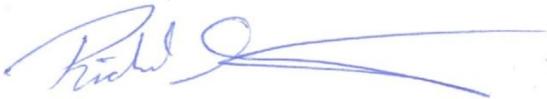
The third, fourth, and fifth bullets under Cultural Resources section of Appendix 2A refer to a Monitoring Plan and a Discovery Plan as separate documents, but sixth bullet refers to a Monitoring and Discovery Plan. APS requests that the bullets be revised to read “Monitoring and Discovery Plan” for consistency.



The requested changes outlined in this comment letter on the DEIS and DRMPA are needed to accurately inform the BLM with regard to APS’s construction standards and operations and maintenance practices. This information will serve the BLM as it decides whether to amend the existing Bradshaw-Harquahala RMP and whether to issue a ROW for the purpose of constructing and operating a 500/230kV overhead transmission line from the Sun Valley substation to the Morgan substation. Further, APS’s comments in response to the impact analyses are intended to assist the BLM in accurately evaluating potential impacts of the Project.

If you have questions, please contact me at 602-493-4448 or by email at richard.stuhan@aps.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Richard Stuhan", with a long horizontal flourish extending to the right.

Richard Stuhan
Siting Consultant Senior

Appendix 2B

Vegetation Maintenance

Vegetation maintenance serves five main purposes: (1) provides reliable, uninterrupted service to customers; (2) provides safe and efficient transmission of power along existing lines; (3) provides safe and reasonable access to the lines and structures for inspection and maintenance; (4) provides protection against wildfires by reducing the potential for fire ignition from vegetation in and around the power lines; and (5) reduces effects of fire damaging structures or causing power faults in the lines through decreasing fuel load under the lines.

Vegetation Maintenance Overview

APS maintains vegetation that could interfere with the power lines and towers, that could become a fuel load issue under the lines, and to provide vehicle access to the towers for maintenance and repair. Vegetation maintenance work is done within the right-of-way. This work is typically done routinely about every 3 to 10 years, although there are situations where hazardous vegetation may need to be treated out of cycle.

Annual inspections outside of vegetation maintenance may be conducted by air or ground and would have negligible effects to vegetation communities. When access is required for routine maintenance and repairs, the same precautions and procedures used during construction would be used to minimize ground disturbance and vegetation impacts.

Routine Vegetation Maintenance: Routine vegetation maintenance involves the cyclical treatment of vegetation approximately every 3 to 10 year utilizing mechanical, manual, and herbicide treatments as discussed below in the Vegetation Maintenance Methods section. Routine maintenance activities typically do not include ground disturbance, as they are conducted by relatively small crews using minimum equipment, and over a few hours to a few days time. There would be no new roads or access routes required for vegetation maintenance.

Hazard Vegetation Maintenance: Vegetation that present a hazard to the power line and structures require treatment on an ongoing basis outside the routine maintenance cycle. The need to treat hazard vegetation is not common due to the ongoing routine maintenance, but is occasionally required. These hazards can be categorized into three levels, and are treated slightly different for each level:

1. *Level 1 Emergency Hazard:* An emergency caused by vegetation occurs when vegetation is arcing to the line, has caused a power fault, is burning from contact or arcing with the line, and when all or a portion of a tree is in contact with the line from falling or growing into the wires. Emergencies due to vegetation on a large, 500 kV line are uncommon, but if it were to occur, it is a very serious event. APS must act immediately to eliminate the hazard no matter the weather or road conditions or time of day or year.

2. *Level 2 Imminent Threat Hazard:* There can be two types of imminent threat hazards: (1) a live or dead standing tree or vegetation having defects in the roots, butt, bole, or limbs, which predispose it to imminent mechanical failure which could damage whole or part of the power line or tower; and (2) an imminent threat hazard may also be a tree or branch that has come close enough to the power line such that it poses a safety risk to the public and tree workers. Imminent threat hazards must be treated as soon as possible once the hazard is identified. These hazards are typically treated within a week of identification.
3. *Level 3 Off Cycle Hazard:* This type of hazard includes any live or dead tree that poses a future threat to the power line or structures and cannot be left untreated for the next growing season or next maintenance cycle. These hazards do not pose an imminent threat but must be treated prior to the next growing season or out of cycle before it becomes an imminent threat. Treatment of Off Cycle trees may sometimes be scheduled around seasonal timing restrictions.

Vegetation Maintenance Methods

Mechanical Treatment Methods

Mechanical treatment involves the use of a mower to remove and mulch vegetation on site. The mower consists of a rotary cutting device mounted on an arm on a rubber tire or tracked vehicle that mulches trees and large shrubs from the top down. A mechanical mower may be used in the majority of the power line right-of-way for routine vegetation maintenance. The mower would not operate in areas with steep slopes, poor access, water drainages, or within cultural resource sites. Manual hand crews may be used to assist the mower operation in pruning or vegetation disposal.

Manual Treatment Methods

Hand crews are used for all hazard vegetation work and for some routine vegetation maintenance work. For routine vegetation maintenance, hand crews may be used to assist the mechanical mowers, to cut vegetation where mowers cannot be used, or as an alternative method to mechanical mowing. Hand crews consist of line clearance tree workers that use hand tools (chain saws, hand saws, rope) to cut down or prune vegetation. They typically only use pickup trucks as a means of travel to the work site, but may also use a bucket truck and/or chipper.

Herbicide Treatment Methods

The purpose of herbicide treatment is to efficiently maintain clearances obtained following mechanical and/or manual treatments. Herbicide treatment is ideally conducted within one to three growing seasons following the mechanical and/or manual treatments.

Vegetation targeted for herbicide treatment includes most vegetation that is targeted for manual and mechanical treatment, the exception being saguaros would not be treated using herbicides. Herbicide treatment involves vegetation that is less than 10 feet tall whose physiology is such that it could encroach within the associated FAC-003 clearance distance, impact the reliability of

the transmission line or transmission facilities (e.g., towers, guy wires, etc.), or poses a fire fuel load concern. APS also proposes to treat any invasive species encountered during the course of an herbicide project within the permitted right-of-way where it is reasonable and prudent to do so and provided the herbicide being applied would be an effective treatment. All activities will be conducted within existing APS power line right-of-way.

Vegetation Maintenance Protocol

Protocol for hazard vegetation work is simple and typically only requires 2 to 6 tree workers accessing the area of concern to prune or remove the offending hazard vegetation. This work is usually completed within 1 to 2 working days. The resulting slash is cut such that it lies within 18 to 24 inches of the ground and is lopped and scattered within the right-of-way in the immediate area.

Protocol for routine vegetation maintenance requires more steps. The remainder of this section focuses on the protocol for routine maintenance work. Below lists the typical routine maintenance protocol:

1. Tall growing vegetation within the right-of-way is cut down and may be treated with herbicides according to the Herbicide Treatment Methods section above (note: while saguaro cactus is listed as a species to cut, it would not be treated with herbicides).
2. For each tower along the line, all woody vegetation, including shrubs and trees, would be cut down and treated with herbicides (herbicide treatment excludes cacti) underneath the tower and 40 feet out from each footer of the tower.
3. Lower growing vegetation such as creosote bush and small cacti that do not fall within the 40 feet around the towers are left on site untreated unless: (1) the shrub or cacti blocks access on the existing access routes within the right-of-way; or (2) the shrub density is high causing a fuel load issue under the line. In the case of high density vegetation, the shrubs are thinned to a reasonable and safe density level while providing as much protection as possible to the line and structures in case of fire.
4. Where line spans high above canyons and slopes, either no treatment will be needed, or some thinning may be needed to break up fuels under the line. Typically no treatment is required if the line is 100 feet or greater above vegetation unless the fuel density is heavy and needs to be broken up by thinning.
5. Herbicide application targets vegetation 10 feet tall or smaller that was cut during manual or mechanical vegetation treatment. This treatment ideally is done one to three growing cycles following mechanical or manual treatment. The initial treatment applications are scheduled between April 1 and November 30 with a follow up application to be conducted one year later between April 1 and November 30.
6. Stumps from vegetation treatments are cut no greater than 12 inches above the ground and where possible are cut flush to the ground.

7. For the hand crew operations, slash is lopped and scattered throughout the immediate area in a manner such that debris lies within 18 to 24 inches of the ground. Where chippers are used, the chips are broadcast across the right-of-way no deeper than 4 inches in depth.
8. For mower operations, the majority of vegetation, except larger logs, are mulched by the mower and material is broadcast across the right-of-way no deeper than 4 inches in depth.
9. Access for all treatment methods is done using only established roads and access routes to approach the right-of-way. There will be no new roads or access routes required for vegetation maintenance. If a portion of the power line right-of-way is inaccessible by road, the crew will drive to the nearest location and walk in to the right-of-way with the necessary equipment.
10. Vegetation maintenance crews will make every effort to keep impacts within the right-of-way to a minimum. APS will only work within the right-of-way when the soils are dry enough to prevent ruts.
11. All vehicles will be operated in a safe and prudent manner.