APS Oak Creek to McGuireville 69kV Transmission Line Project #56977

Objection Period Submission

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Project: APS Oak Creek to McGuireville 69kV Transmission Line Project #56977

Forest: Coconino Nation Forest, Red Rock Ranger District

Responsible Official: Aaron Mayville, Coconino National Forest Supervisor

Submission based on new elements in the Jan 2025 Draft Decision Note (DN)

I file this objection comment based on new elements contained in the Draft Decision Notice for Project #56977. Specifically:

- The Draft DN for #56977 divides the transmission route into multiple segments. Prior documents had not covered, or covered only in passing, any option that involved segmenting the route to apply different treatments by segment.

- These multiple segments alternate between aerial and underground facilities. This switching of facility types introduces riser poles and related infrastructure where underground cable transitions to aerial, or the reverse. Prior documents did not analyze what setbacks, and other criteria, should apply to those transitions.

- The draft DN specifically recognizes that Scenic Integrity Objectives carry sufficient weight to require underground facilities to achieve those objectives. Prior documents had not indicated that SIOs would carry that level of decision-making weight.

Comments on new elements mentioned above

This submission provides objection comments on six items related to the new elements mentioned above.

- *Segment D-E, Beaverhead Flats to VOC 69kV – Subdivision at saddle*
- *Segment B-C, UG Section under SR 179 – Specification of riser pole setback*
- *Segment F-G, Aerial Facilities over Cornville Road – Use underground*
- *Segment D-E, at Beaverhead Flats Rd – Specification of riser pole setback*
- *Segment F-E, Underground along Beaverhead – Traffic mitigation*
- *Segment G-H, Aerial Facilities along Cornville – Specification of riser setback*

Comments on each of those six items are provided below, followed by comments on cost and other elements common to all items.

- *Segment D-E, Beaverhead Flats to VOC 69kV – Subdivide at Saddle*

  The Draft DN gives significant importance to scenic views, and to Scenic Integrity Objectives in particular, specifying underground facilities along Beaverhead Flats Road and at SR 179 in furtherance of those goals.

  In a similar manner, given their potentially high (in cases enormous) scenic impact, the aerial facilities at the saddle between the mesas just south of VOC in Segment D-E, and those on the northern downslope into VOC, those aerial facilities should be converted to buried.

  The aerial facilities at the saddle pose a particularly great scenic jeopardy. At the saddle, the topology will push the poles above any backdrop and silhouette them against the sky, that contrast making them highly visible. The location will render them visible from multiple points: along Beaverhead Flats Road; Kel Fox trail; within Village of Oak Creek; from SR 179; and from vantage points along registered and social trails in the red rock formations north of VOC (Diving Board, Bell Rock, Castle Rock, and so on).

  Along the north slope, the poles with not extend upwards so dramatically, but still high, and thus visible from VOC, and some trail vantage points. Importantly, including the facilities on the downward slope will be an

additive effort, since the positioning and other steps to bury at the saddle will in part or total set up construction of buried facilities along the slope.

The Draft DN and Final EA (Environmental Assessment) prominently mention that underground routing involves a 40-foot ROW. Quite frankly, an aerial pole line requires a similar intrusion, likely a permanent, pruned 40-foot path (as evidenced by the similar path for the existing 69kV line back to Sedona). Further, construction of an aerial route involves bringing in the poles, creating footings and pulling cable at 65 feet up, so not terribly less intrusive during construction than trenching.

- *Segment B-C, UG Section under SR 179 – Specify riser pole setback*

  As just noted in the prior section, the Draft DN specifies underground routing for the SR 179 crossing segment to achieve scenic and SOI goals, given in particular the high traffic volume and direct visibility of an aerial route by that traffic.

  However, the Draft DN does not specify the set back from the street of the riser poles on each side. Insufficient setbacks will leave the poles visible to drivers, diluting and likely seriously undermining much or all of the scenic benefit of using underground cable routing under the road surface.

  Trigonometric line of sight calculations of the setback, assuming viewing lines over 15-foot shrubs, to 65-foot poles, and a distance to the roadside tree-shrub line of 30-40 feet, gives a setback distance 100 feet from the road, to avoid any visual of the poles by motorists in approaching cars. Another 50 to 100 further will be needed given gaps in the tree-shrub line along SR179, pushing the vegetation hiding the poles more than 30-40 feet from the roadside, and thus giving a setback of 150-200 feet.

- *Segment F-G, Aerial Facilities over Cornville Road – Switch to underground*

  The Draft DN specifies a significant section of underground facilities along Beaverhead Flats Road. However, when this underground segment (segment F-E) arrives at Cornville Road, the DN specifies an aerial segment (F-G) over Cornville Road.

The DN states limited public comment identified a scenic value along Cornville Road. However, Cornville Road intersects Beaverhead Flats at this aerial segment. Essentially every vehicle traveling on Beaverhead Flats passes this intersection. Thus, this aerial section over Cornville Road will dilute and seriously undermine the scenic benefit of underground facilities along Beaverhead Flats. Quite frankly, even though short, this aerial segment will leave a visual impact and distraction, and thus motorists will viscerally recall and likely comment to friends and neighbors ("Why did they build these tall poles right there at the intersection, right there of all places?"). Hundreds of local commuting residents pass this intersection, so will see it many times a week, week after week.

And note importantly motorists cannot speed by, but rather must stop at the intersection stop sign, or slow down or stop in the left turn lane, and scan for traffic. In that scan, the poles and aerial crossing will be front and center in their view.

True, a 12kV line exists across this intersection. That line sits on shorter wooden poles, with relatively thin conductors, and does not lie in the line of sight when at the stop sign on Beaverhead, or in the left turn lane on Cornville. An aerial crossing for the 69kV line would possess much greater visual impact – high poles, thicker conductor, at the intersection.

Cost issues are not daunting, as will be discussed later. As also discussed later, once built if the aerial crossing proves a scenic distraction, it can't readily be undone. Error on the side of the scenic would be prudent.

- *Segment D-E, at Beaverhead Flats Road – Specify riser pole setback*

  The underground segment E-F along Beaverhead Flats Road converts to aerial Segment D-E at the east end. As with the SR 179 crossing, locating the riser poles with insufficient setback will dilute and undermine the benefits of the placing segment F-E underground. The Draft DN does not, but should, specify the setback for that first rise pole.

  Nominally, the setback distance should eliminate any visual line of sight of the first and subsequent poles. The sparse vegetation at this point may not allow this. Alternately, the setback should be such that if a visual line of

sight exists, the poles should for example not break the horizon extending visually into the sky, or should diminish in angular view to below a certain degree.

On that item, visual angular view, a 12-foot shrub at 30 feet of distance, as an example of typical size and roadside distance of vegetation along Beaverhead, creates a visual angle of about 22 degrees. A 65 pole would need to be placed about 165 feet away to reduce its visual angle to a comparable level.

- *Segment F-E, Underground along Beaverhead – Establish traffic mitigation*

  The Draft DN (correctly in my view) specifies underground facilities along Beaverhead Flats Road. Construction of these facilities might, actually most likely will, require reducing traffic to one lane. The draft DN does not, but should, specify traffic congestion mitigation standards during that construction.

  Note the within the past two years, the local population has experienced (suffered under) long traffic delays during the upgrade of barriers and similar along Cornville Road between Beaverhead Flats Road and Cottonwood. This of course engendered significant frustration (anger), diluting (negating) the public's perception of the safety improvements from the upgrade. The Forest Service should specify, and work with APS, to not dilute (negate) the perception of the scenic benefit of underground facilities with any excess frustration over traffic delays.

- *Segment G-H, Aerial Facilities along Cornville – Specification of riser setback*

  Similar to setback discussions above, with adoption of the recommendation for a buried route under Cornville Road at the intersection with Beaver Flats, the setback to the first rise pole to the subsequent Segment H-I aerial should be specified. As before, placing this riser too close to the road, in this case the intersection, would dilute and undermine the benefit of the underground routing along Beaverhead Flats and the (above requested) buried route under Cornville.

The same approach to determining the setback mentioned above, I.e. setback sufficient that the visual angle of the pole in the distance be equal or less than that of vegetation in the proximity of the road. The vegetation at this intersection is particularly sparse and short, so a setback of 300 feet would be needed. This setback would not be into the forest, but rather backward east from the intersection, but still alongside Cornville.

Common comments on new elements

- *Permanence*

  Once a decision allows an aerial facility at a given location, if that aerial facility impacts scenic and SIO goals more than projection, that error cannot in any practicality be reversed. The impact will be present basically forever. Thus, decisions on routing should give the preservation of scenic views and achievement of SOIs an incremental benefit of the doubt.

  The aerial route over the saddle into VOC poses a particularly acute scenic risk. That new section of aerial must go underground to avoid a possible scenic impairment.

- *Costs*

  Pole setbacks require added lengths of conduit, and using underground routing at Beaverhead and Cornville Road involves directional drilling or similar. Given the strong scenic benefits plus the implied weight given to scenic and SIO goals in placing underground sections along Beaverhead Flats Road and at SR 179, the scenic benefits appear to justify the costs based on the Forest Service's own assessment.

  Critically, the costs will be modest and incremental. The Draft DN already triggers trenching and directional drilling, and thus already triggers acquisition and staging of trenching and directional drilling equipment. Further, the construction crews will already have gained familiarity and skill with local soil conditions, applicable construction techniques, lodging, traffic, permitting requirements, and so on.

  On underground facilities under Cornville, the Draft DN cost of $735,000 seems way high, as that equates to $3500 per day for a 200-workday year, or approximately 3 workers plus rental each day. A (generous) nominal schedule, in contrast, would consist of say a week to prep the area and clear vegetation, a

week to move and stage the driller, a week to bore, a week to install conduit, a week to backfill. Add dump trucks, waste disposal, backfill material, conduit material, $90,000 total order of magnitude.

The cost of the conduit for the four setbacks above appears already in the cost estimate. If not, $25,000 each incremental, or $100,00, for four setbacks of nominally 200-300 feet each, on average.

The cost for conduit and underground over the saddle down the hill depends on many factors specific to that effort. But a clear and critical focus must be on this section. The new poles at the saddle down the slope towards VOC will be visually prominent, from multiple directions.

- *Historic, Soil, and Related*

  Much of the added lengths of conduit will be within and under stretches of land already included within aerial routes. Conduit does not equal aerial, but at first approximation the added conduit lengths will be in locations already assessed for historic and other issues. Soil disturbance does increase, but incrementally. So the added conduit lengths and setbacks should not hit any additional, or only incremental addition, considerations.