

# **Decision Notice and Finding of No Significant Impact**

**APS N01 Youngs Canyon to Mormon Lake 69kV  
Power Line and Substation Project**

**USDA Forest Service  
Coconino National Forest  
Coconino County, Arizona**

**November 2014**



## **Background**

The Coconino National Forest (COF) is proposing to issue a permit that would allow Arizona Public Service Company (APS) to construct, operate, and maintain a new 69kV sub-transmission line, substation, and 12kV distribution line on the Flagstaff Ranger District of the COF approximately 12 miles southeast of Flagstaff, Coconino County, Arizona (Figure 1).

The proposed project components are as follows:

1. Construct a 69kV sub-transmission line (with a 60-foot-wide ROW) with self-weathering, dark brown, steel poles for a total length of 17.36 miles on COF land adjacent to the Western 345kV transmission line ROW.
2. Construct the Mormon Lake Substation on 2.06 acres at the junction of FR 125 and the existing Western 345kV transmission line corridor (FR82).
3. Construct an aboveground 12kV distribution line (with a 20-foot-wide ROW) and accompanying access from the proposed Mormon Lake Substation southwestward to FH 3 (Lake Mary Road) on 3.68 miles of COF land. Post-construction, permanent road access would be along FR 125.
4. Construct a 12kV buried distribution line (with a 20-foot-wide ROW) and accompanying access from east of FH 3 westward on 0.45 miles of COF land, along Lake Mary Road (FH3).
5. Construct an aboveground 12kV distribution line (with a 20-foot-wide ROW) and accompanying access from just west of FH 3 (near the Mormon Lake Guard Station Road) westward to the existing CQ-12 distribution line on 0.2 miles of COF land. No changes would be made to the existing CQ12 distribution line.
6. Remove the existing 1.44-mile overhead CQ-12 Extension to Flying M Ranch 12kV distribution line from near the Flying M Ranch east of FH 3 to its intersection with the existing CQ-12 distribution line near the COF Mormon Lake Guard Station, including the section that crosses the lower portion of Mormon Lake in the meadow.
7. Use existing roads to access the ROW for the proposed 69kV sub-transmission line. A total of approximately 5.4 miles of existing roads located outside of the project ROW may require improvement to a maximum width of 12 feet.

Table 1 presents the length or area within each project component.

**Table 1. Project Powerline and Substation Components.**

| <b>Youngs Canyon to Mormon Lake Project Component</b>            | <b>Length/Area</b> |
|--|--------------------|
| 69kV Proposed line to be built aboveground                       | 17.36 miles        |
| 12kV Proposed distribution line to be built aboveground          | 3.12 miles         |
| 12kV Proposed distribution line to be built-in-place aboveground | 0.56 miles         |
| 12kV Proposed distribution line to be built underground          | 0.45 miles         |

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Sub-Transmission Line Project**

|   |            |
|---|------------|
| 12kV Existing distribution line to be removed | 1.44 miles |
| Proposed Substation                           | 2.06 acres |

The existing CQ-12 distribution line extends 45 miles along Forest Highway (FH) 3, also known as Lake Mary Road, to Happy Jack and is proposed to remain in place. Voltage Range A (a low voltage class) states that the minimum voltage below 114V is not acceptable when nominal voltage is 120V. The customers' voltage range was reported below 114V at the end-of-line. Voltage in the Mormon Lake area and at the communications sites on Mormon Mountain falls below Voltage Range A, and the end-of-line voltage falls below 108V even with three existing voltage regulators in series. Lowell Observatory's Discovery Channel Telescope, a \$53 million project, is at the end of the CQ-12 line in Happy Jack. The telescope is the fifth largest in the continental United States. Due to the long feeder and small conductor, the impedance (a measure of the apparent resistance posed by an electrical circuit to an alternating current) between the substation and the end of the feeder line is very large. Because of this large impedance, when the air conditioner is started at the telescope, there is a 10 percent voltage drop. This drop causes problems at the facility and for other customers in the vicinity, such as poor efficiency and wasted energy, erratic power, and damage to equipment. Future load growth in the area would aggravate the current voltage problems and likely cause overloads.

APS and its customers along the CQ-12 line, including Lowell Observatory's Discovery Channel Telescope and the communities of Happy Jack and Mormon Lake, desire improved electrical power. This project would allow APS to meet the National Energy Policy requirements for consistent power for current and future users and would be consistent with the COF Forest Plan objectives and national energy direction, specifically the need to improve local reliable power. If there is no action taken, the end of line voltages would continue to suffer and violate ANSI Standard C84.1-2006 and a key customer, Discovery Channel Telescope, and surrounding loads would continue to experience voltage flicker problems. During the public scoping process, a longtime resident to the Mormon Lake area expressed support as he has "endured frequent power outages and marginal transmission quality."

The proposed Mormon Lake Substation and connecting 69kV and 12kV lines would correct the low voltage and voltage drop problems at the telescope and in the Happy Jack and Mormon Lake communities. The peak load on CQ-12 was 11.8 Mega Volt Amperes (MVA) in January 2013. The load on the Mormon Lake Substation would be approximately 2 MVA. Because of the location of the proposed Mormon Lake Substation, it would be closer to the loads and would inherit 2 MVA of the excessive load that is currently on CQ-12. CQ-12 extends 45 miles to the Discovery Channel Telescope, which is located near the end-of-line. Without the proposed new lines and improvements, the source cannot correct a problem, should one arise.

The COF Land and Resource Management Plan (Forest Plan; USDA 1987) identifies the need to manage special uses such as power lines on COF land with the goal to "administer special uses to best meet public needs." The Forest Plan also discusses the importance of minimizing the development of utility corridors on COF land to protect forest values with the goal to "minimize the number of electronic sites and utility corridors consistent with appropriate public services that can only be met on Forest lands." This project adheres to the Forest Plan objectives by authorizing the construction of the new 69 kV power line along the existing Western Area Power 345 kV corridor instead of creating a new corridor in another location. The distribution lines are

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proposed to be constructed near and within existing roadways, designated motorized camping corridors and in existing power line corridors. In addition, this proposal removes overhead power lines in a sensitive resource and viewshed area at the south end of Mormon Lake and consolidates power lines along existing road corridors, thus also minimizing the new corridors on the forest.

This decision authorizes construction, operation and maintenance of a sub-transmission line, distribution lines and a substation on the COF to meet National Electric Reliability Code standards in compliance with the current COF Forest Plan.

## Decision

After consideration of the Youngs Canyon to Mormon Lake Substation 69kV Sub-Transmission Line Environmental Assessment (EA), it is my decision to approve the Proposed Action Alternative to construct, operate, and maintain a 17.36-mile-long 69kV sub-transmission line (with 60-foot-wide ROW), new substation and additional distribution lines with ancillary construction activities, as described in Alternative 2 of the EA..

This decision approves Alternative 2, which includes the authorization or modification of a special use permit(s) for project construction activities with timing restrictions within the Anderson Mesa pronghorn reproductive area (construction to not occur between April 15 and June 27) and within 0.25 miles of a Mexican spotted owl PAC during the breeding season (March 1 to August 31) on the COF. This alternative meets the project's purpose and need by correcting the low voltage and voltage drop problems at the telescope and in the Happy Jack and Mormon Lake communities.

The alternative would also comply with the COF Land and Resource Management Plan by helping to manage special uses such as power lines on COF land with the goal to "administer special uses to best meet public needs." The alternative would also minimize the development of utility corridors on COF land in order to help protect forest values with the goal to "minimize the number of electronic sites and utility corridors consistent with appropriate public services that can only be met on Forest lands" (Forest Plan; USDA 1987, page 24).

Initiating at the Youngs Canyon Substation, the proposed action alternative would authorize APS to construct a 69kV sub-transmission line within a 60-foot ROW which would parallel the west side of the existing Western 345kV transmission line 300-foot ROW along FR 9124X, 740A, FR 9481A, and FR 82 for approximately 17.36 miles on COF land to FR 125. At the proposed 69kV sub-transmission line's intersection with FR 125 atop Anderson Mesa, this alternative would allow APS to construct the Mormon Lake Substation due west of Mormon Lake totaling 2.06 acres. From this substation this alternative would construct a 12kV distribution line within a 20-foot ROW to the southwest for approximately 3.8 miles on COF land to its junction with FH 3. While the ROW would be used for construction, there would not be construction or maintenance of a permanent road in this corridor and long-term maintenance of the line would be periodic. New spur roads from FR125 would be created to allow APS long-term approved overland travel into the ROW within the designated motorized camping corridor. Utility vehicles would be able to travel on- or off-road within Project ROWs, but would not typically travel off-road outside of the ROWs. Where off-road travel would be necessary outside the Project ROWs, only rubber tired vehicles would travel off-road, with no off-road travel through wetlands or running streams or when wet conditions could cause damage to soils.

Approximately 0.56 miles of the 12kV line would be replacement of poles within the existing CQ-12 Extension to Flying M Ranch 12kV ROW. The 12kV ROW would overlap a 300-foot-wide COF-designated motorized camping corridor by 10 feet for 2.67 miles along FR 125. Just east of FH 3, the line would be buried underground and would cross FH 3 and follow along the west and north side of FH 3 across the Mormon Lake meadow for approximately 0.4 miles. The

line would then re-emerge aboveground for 0.2 miles and connect to the existing CQ-12 12kV distribution line.

Construction is scheduled to begin in early 2016 and 2017, while vegetation would be maintained regularly in the ROW, approximately every 5 years. Long-term maintenance activities would include periodic mowing and hand clearing of vegetation within the ROW. Regular climbing inspections of poles would also occur every five years. Construction and maintenance equipment and tools would include trucks, bulldozers, excavators, ATVs, mowers, and passenger vehicles. These vehicles would be driving overland off-road to access poles within the ROW and spur roads within the designated motorized camping corridor. Pole replacement and/or line repair after initial construction would require similar vehicles and tools.

APS would use rubber-tired large utility trucks with augers to dig holes for the power poles, helicopters to set the poles, and line trucks to install the poles and to attach/string the wire. Five temporary material/equipment storage areas for equipment staging and helicopter landing would be used for approximately four weeks throughout the construction phase (18 to 24 months). APS would also use three temporary washing stations for washing equipment. Material/equipment storage areas and washing stations would be located in naturally occurring, open areas and would not require vegetation clearing.

#### **Access Routes**

Under the Proposed Action, APS would use existing access roads (roads open to the public as well as administrative use roads where approved) as much as possible for the duration of the project, though some roads would require improvement to expand them to a width of 10 to 12 feet. The access roads (and approximate lengths of the roads where improvement is proposed) located outside of the project ROW that would require improvement include FR 9124X (1,175 feet), FR 740A (1,084 feet), FR 82 (2,346 feet), FR 125 (2,346 feet), and an unnamed section of road that connects the latter two forest roads (420 feet). To access pole locations from these access roads, APS would drive overland within the project ROW. APS will access the 12kV ROW from spur roads within the designated motorized camping corridor.

#### **Construction Timing**

Figure 2 shows the proposed seasonal timing of allowed construction, weather and fire restrictions permitting. Segment 1a and 1b are accessible for construction and maintenance year round, though occasional snowfall may preclude activities particularly on Anderson Mesa. Segments 2 and 3 are the most restricted areas and are accessible for construction and maintenance outside of sensitive wildlife time periods. During the spring (April 15 – June 27) Segment 2 is subject to a vehicle closure for pronghorn reproduction. For much of the spring and summer (March 1 – August 31) Segment 3 is subject to a construction closure for the breeding season of the Mexican spotted owl; the Iowa Camp PAC is immediately south of the proposed line and all construction is prohibited within 0.25 mile of the center during this time period. Table 2 presents the transmission line type and length of each defined segment.

**Table 2. Timing of Construction Segments and Associated Transmission Line Types**

| <b>Construction</b> | <b>Transmission Line Type and Length</b>  |
|---------------------|---|
| <b>Segment 1a</b>   | 11.88 miles of new 69kV line  |
| <b>Segment 1b</b>   | 3.24 miles of new 69kV line and 12kV line (including existing line to be removed) |
| <b>Segment 2</b>    | 5.21 miles of new 69kV line   |
| <b>Segment 3</b>    | 1.14 miles of new 12 kV line  |

# APS Youngs Canyon to Mormon Lake 69/12kV

EnviroSystems Project No. 1701-13

**Figure 1. Proposed Youngs Canyon-Mormon Lake 69/12kV right-of-way and Mormon Lake Substation.**

## Legend

- Proposed 69kV sub-transmission line
- Proposed 12kV distribution line
- Existing CQ-12 extension line to be removed
- - - Existing CQ-12 line
- CNF land
- Walnut Canyon N.M.
- State land
- Private land

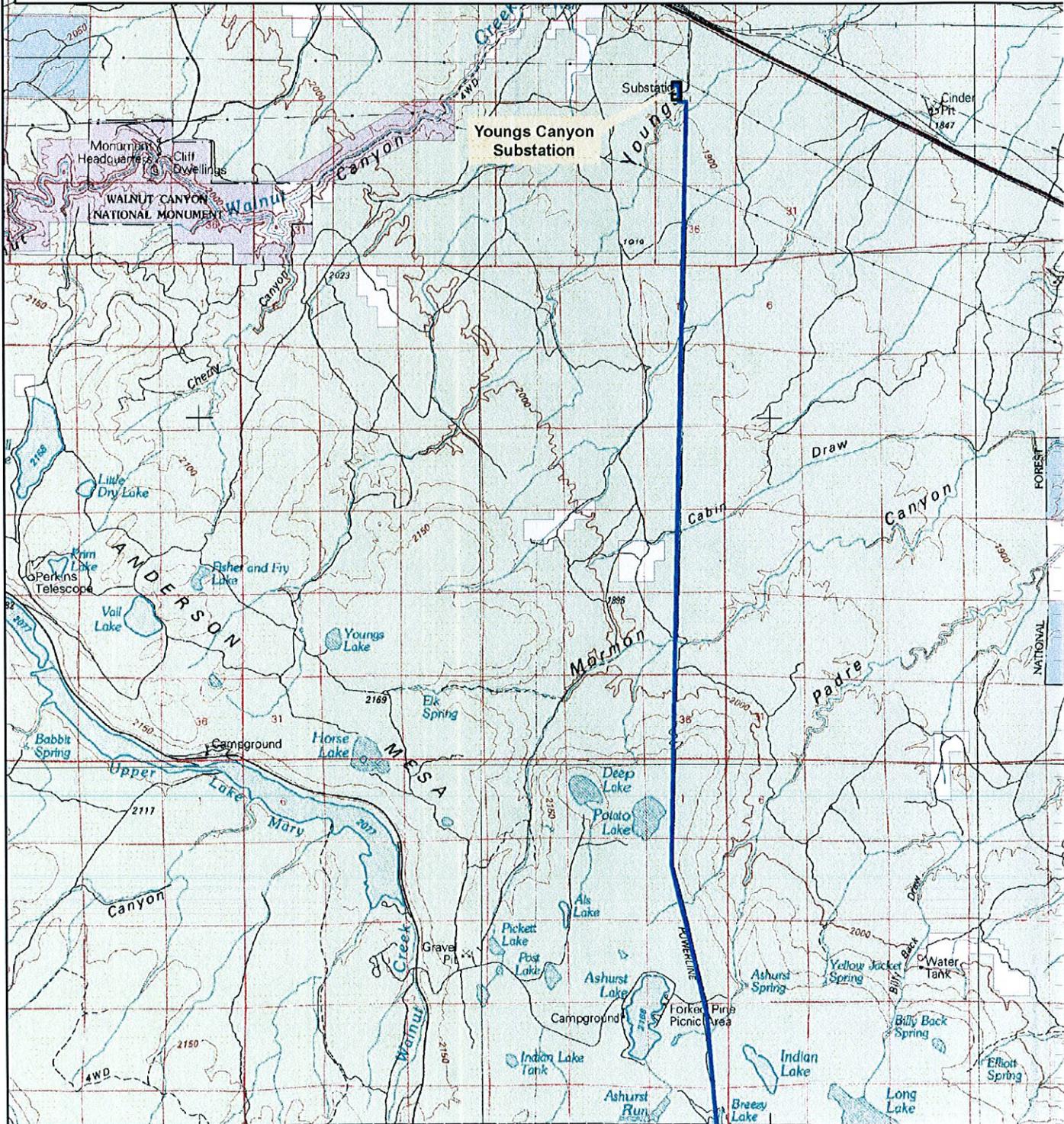
0 1 2 Miles

0 1 2 Kilometers



Base maps are Flagstaff (1982)  
and Sedona (1980), AZ,  
1:100,000 USGS quadrangles.

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**APS Youngs Canyon to Mormon Lake 69/12kV**

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**Figure 2. Seasonal timing of allowed construction weather and fire restrictions permitting.**

0 1 2 Miles

0 1 2 Kilometers



**Legend**

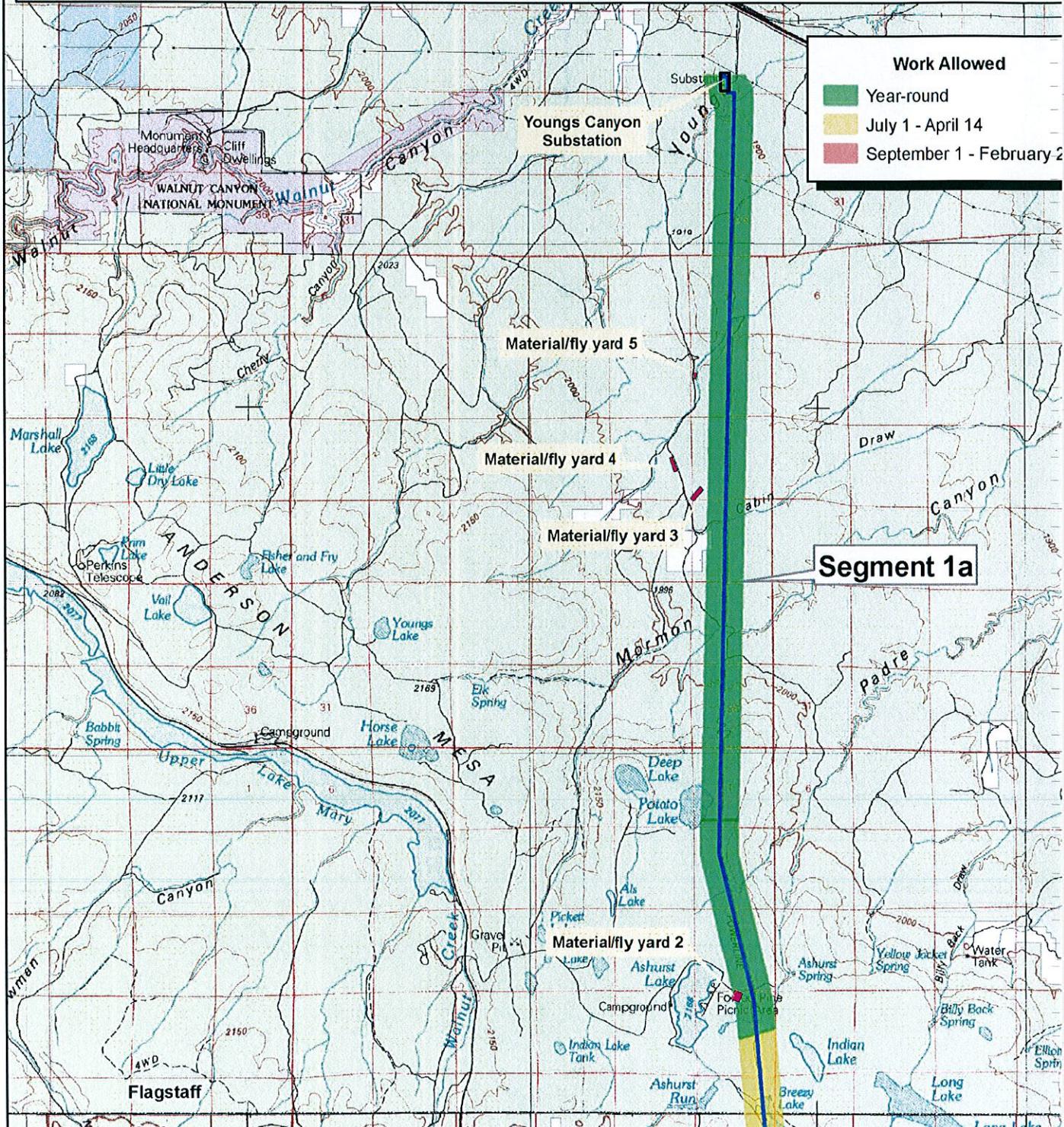
- Proposed 69kV sub-transmission line
- Proposed 12kV transmission line
- Existing CQ-12 extension line to be removed
- - - Existing CQ-12 line
- CNF land
- Walnut Canyon N.M
- State land
- Private land

Base maps are Flagstaff (1982) and Sedona (1980), AZ, 1:100,000 USGS quadrangles.

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**Work Allowed**

- Year-round
- July 1 - April 14
- September 1 - February 2



**Segment 1a**

## Project Conservation Measures

Table 3 presents the project conservation measures (PCM) that are incorporated in this decision.

**Table 3. BMPs Required for Implementation of the Proposed Action.**

| NO.                        | MITIGATION   | PURPOSE  |
|----------------------------|--|--|
| <b>Air Quality</b>         |  |  |
| <b>AQ1</b>                 | Dust generated during construction would be controlled by watering and/or other standard dust abatement measures before, during, and after construction.   | To minimize air quality impacts caused by dust created during construction.  |
| <b>AQ2</b>                 | Disturbed land in areas with temporary impacts would be revegetated (see BMP No. V1). This also applies to soil and water.   | To discourage future off-road vehicular activities and to stabilize the soil from erosion.   |
| <b>AQ3</b>                 | APS would ensure that vehicles and equipment used during construction are properly maintained and regularly inspected.   | To minimize exhaust emissions (e.g., carbon monoxide, nitrogen oxide, sulfur dioxide, hydrocarbons, and particulate matter) during construction. |
| <b>Cultural Resources</b>  |  |  |
| <b>CR1</b>                 | Should any previously unidentified, significant cultural resources be encountered during construction or the monitoring activities, work in the vicinity of the discovery would be suspended and the Monitoring Archaeologist contacted immediately, if not already present. The Forest Archaeologist or District Archaeologist must be notified within 24 hours of the finding. Pursuant to federal and state laws, should human remains be encountered, all work must cease and the Flagstaff Zone Archaeologist must be notified immediately at 928/527-8261 or the Forest Archaeologist at 928/527-3600. | To avoid adverse impacts to cultural resources.  |
| <b>Hazardous Materials</b> |  |  |
| <b>HM1</b>                 | APS would require all employees to adhere to BMP guidelines, and all waste and spills generated on site would be disposed of in accordance with state and federal regulations.   | To prevent leaking of hazardous materials (i.e., oil, gasoline, and other hydrocarbon fluids).   |
| <b>HM2</b>                 | Only emergency equipment maintenance would be performed at construction site locations. Routine equipment maintenance would normally be conducted at APS facilities.   | To prevent leaking of hazardous materials (i.e., oil, gasoline, and other hydrocarbon fluids).   |
| <b>HM3</b>                 | Equipment for minor spills (shovels, construction bags, and absorbent material (for impervious surfaces) would be available at all construction locations.   | To prevent impacts from f hazardous materials (i.e., oil, gasoline, and other hydrocarbon fluids).   |
| <b>HM4</b>                 | All fueling of vehicles would be done on a designated, protected, upland site or off site at a fueling facility. If more than 1,320 gallons of petroleum products are to be stored on-site above ground or if a single container exceeds 660 gallons, then a Spill Prevention Control and Countermeasure Plan would be prepared as per 40 CFR 112. This also applies to soil and water.  | To prevent contamination of soils and waters from accidental spills and to maintain water quality.   |

**Youngs Canyon to Mormon Lake Substation 69kV  
Sub-Transmission Line Project**

| <b>NO.</b>               | <b>MITIGATION</b>  | <b>PURPOSE</b>  |
|--------------------------|--|---|
| <b>Noise</b>             |  |   |
| <b>N1</b>                | Construction machinery and equipment would be well-maintained.   | To minimize construction-related noise for both wildlife and humans.  |
| <b>N2</b>                | Limit equipment on-site to the minimum necessary to complete construction. Helicopter use during construction is expected for approximately four weeks total.  | To minimize construction-related noise for both wildlife and humans.  |
| <b>N3</b>                | Motorized closure from Ashurst Lake south to the substation location: No vehicles, helicopters, or equipment would be able to work along this portion of the line between April 15 and June 27.  | To minimize construction-related noise for both wildlife and humans.  |
| <b>Recreation</b>        |  |   |
| <b>R1</b>                | Construction advisories would be posted at major entry points along the project corridor, on the COF website, and at the Flagstaff Ranger District.  | To inform residents and recreation visitors of construction activities.   |
| <b>R2</b>                | Construction advisories and additional public notification (as needed) would be posted near Ashurst Lake. Minimize helicopter activity around Ashurst Lake during high use recreation times, from May through September and avoid weekends and holidays.   | To ensure the safety of and inform recreation users.  |
| <b>R3</b>                | Access routes off designated corridors and routes would be blocked and restored.   | To reduce minor adverse impacts to recreational users.  |
| <b>Soils &amp; Water</b> |  |   |
| <b>SW1</b>               | Soils would be managed in accordance with direction of the COF Forest Plan (USDA 1987) and would include actions to retain the soil during construction and stabilize the soil after construction.   | To minimize and mitigate adverse impacts to soil stability and productivity.  |
| <b>SW2</b>               | A Stormwater Pollution Prevention Plan in compliance with Section 402 of the Clean Water Act would be prepared and adhered to throughout construction.   | To minimize and mitigate potential soil movement during construction and protect watershed resources from sediment and/or contaminant runoff generated during and post construction activities. |
| <b>SW3</b>               | During and after completion of the project, APS would maintain BMPs identified in the Forest Service Handbook 2509.22 and the Stormwater Pollution Prevention Plan for the period specified.   | To help reduce soil loss during and after construction.   |
| <b>SW4</b>               | All drainages/washes along the project ROW (e.g., Youngs Canyon) would be spanned by the sub-transmission line when possible in attempt to avoid impacts in stream management zones. The Forest Plan identifies approximately 200 feet as a buffer for non-riparian stream courses.  | To prevent impacts to water resource  |
| <b>SW5</b>               | The FH2 soils atop Anderson Mesa soils are particularly susceptible to damage, vegetation removal, and erosion when wet; APS would take measures to avoid overland travel during wet periods during construction and maintenance. Motor vehicles outside of permitted areas or off existing roads and off hardened surfaces should be avoided whenever possible. | To prevent impacts to soil resources.   |

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| NO.               | MITIGATION  | PURPOSE  |
|-------------------|---|--|
| <b>Vegetation</b> |   |  |
| V1                | Revegetate areas of temporary disturbance (fly yards, areas around steel poles, etc.) where construction has damaged or removed existing vegetation with seeds and/or vegetative mats (access road improvement locations and vegetation clearing/trimming corridors would not be revegetated). Seed mix would be determined in conjunction with the Forest Botanist and/or District Biologist to account for the different soils types across the project ROW. All mixes would be certified weed-free. Sites to be revegetated would be scarified prior to seeding. The substation is a permanent impact that would not be revegetated. | To restore natural vegetative communities and minimize the spread of invasive species. |
| V2                | Allotment grazing fences impacted during construction activities would be repaired by APS, and APS would maintain fence closures during construction.   | To maintain separation of designated grazing allotments.                               |
| V3                | Temporary fencing or flagging would be used to restrict construction activities to the designated limits of the construction zone.  | To minimize the area of vegetation impacts.  |
| V4                | Place boulders or other obstructions to prevent vehicular access to areas slated for vegetation re-establishment, as needed   | To minimize the area of vegetation impacts.  |
| V5                | Where possible retain groups of trees near the perimeter of the substation.   | To create a more natural appearing landscape.  |
| V6                | All vegetation that is removed (via clearing or trimming) would be lopped and scattered within the project corridor. For mowing operations, vegetation would be mulched by the mower and broadcast across the ROW to a maximum depth of three inches.   | To decrease soil erosion and promote revegetation.                                     |
| V7                | Block access from FR 125 and FH3 to the old CQ-12 utility corridor made during utility line removal. To hasten recovery and help eliminate unauthorized motorized and non-motorized use of the temporary access roads, use physical measures such as re-contouring, pulling slash and rocks across the line, placing cull logs perpendicular to the route, and disguising entrances for the first 50'.  | To help avoid illegal motorized use of the old corridor.                               |
| V8                | Where possible, shape and/or feather the vegetation at the edges of the utility corridor to avoid abrupt changes between the corridor and surrounding forested landscape. Favor groups of trees that visually connect with the utility corridor edge to avoid abrupt and noticeable changes.  | To reduce contrast between the utility corridor and the existing landscape character   |
| V9                | The use of off-site fill materials should be discouraged and excavated substrate from the proposed project ROW should be used whenever possible. Fill material should only come from weed free sources.   | To reduce chances of noxious weed contamination or spread                              |
| V10               | Water used for dust abatement and other construction activities should be obtained from a source free of invasive plant seeds.  | To reduce chances of noxious weed contamination or spread                              |
| <b>Wildlife</b>   |   |  |
| W1                | All trash, food items, and other solid waste shall be contained in closed containers and removed daily.   | To prevent attraction of wildlife to the construction zone.                            |

**Youngs Canyon to Mormon Lake Substation 69kV  
Sub-Transmission Line Project**

| NO.                   | MITIGATION  | PURPOSE   |
|-----------------------|---|---|
| W2                    | Prior to moving vehicles and machinery, operators should inspect under and around wheels or tracks to verify that no wildlife are hiding under or around said vehicles or machinery. Helicopter use would be so limited that grazing animals in the area would not be affected.   | To prevent inadvertent wildlife injury or fatality caused by moving vehicles or machinery.  |
| W3                    | Operators of vehicles and machinery should adhere at all times to posted speed limits within the construction zone and limit maximum speeds to 25 mph on National Forest System roads.  | To prevent inadvertent wildlife injury or fatality caused by moving vehicles or equipment.  |
| W4                    | Within the designated COF Anderson Mesa pronghorn closure area, construction activities should occur outside of the pronghorn fawning season (April 15 – June 27).  | To minimize disturbance to pronghorn during the sensitive fawning period and to comply with the COF seasonal vehicular restriction within the pronghorn reproductive area |
| W5                    | Power-lines and towers construction incorporate raptor-safe standards. Impacts to raptor nests are avoided by timing removal of any ponderosa pine vegetation outside of the breeding season (March 1 – August 31). If this is not feasible, surveys for raptor nests should be conducted to identify and avoid nest sites from construction activities.  | To prevent impacts to raptors.  |
| W6                    | Within 0.25 miles of the Mexican spotted owl PAC near Mormon Lake meadow, noise-producing construction activities should occur outside of the breeding season (March 1 – August 31).  | To minimize noise disturbance to Mexican spotted owls.  |
| <b>Visual Quality</b> |   |   |
| VQ1                   | If possible, shiny surfaces would be avoided in construction of all substation facilities. Potential building colors include flat tans or browns such as Munsell Standard Environmental Color "desert brown", Sherwin Williams SW 2050 (dormer brown) or SW 2051 (beach house).   | To reduce the contrast between constructed features and the existing landscape character  |
| VQ2                   | <p>If possible, building materials would avoid slick, shiny surfaces such as metal.</p> <ul style="list-style-type: none"> <li>a. Block is the preferred building material because it can be produced or painted with the recommended color, and would have a rough texture that would not be shiny or slick.</li> <li>b. Roofing material should be metal, concrete or asphalt shingle and should be a similar brown color or slightly darker brown, but would have a flat or dull finish.</li> </ul> <p>If metal buildings need to be used, the exterior finish should be matte or dull, not glossy or shiny and the color should resemble those noted above.</p> | To reduce the contrast between constructed features and the existing landscape character.   |
| VQ3                   | Fencing would not need to be painted, but should have a flat or dull surface. Galvanized or flat grey wire fencing (chain link) or other open designs and non-shiny metal posts area appropriate.   | To reduce the contrast between constructed features and the existing landscape character.   |

| NO. | MITIGATION  | PURPOSE  |
|-----|---|--|
| VQ4 | Surfacing for the grounds of the substation should be stabilized natural soil, sand or cinders. If concrete surfaces are installed, the concrete would be colored to match the surfacing materials. | To reduce the contrast between constructed features and the existing landscape character.  |
| VQ5 | Lighting at the facility should be "down lighting" or "spot lighting" to preserve dark skies in the area.   | To reduce light emissions around the substation and preserve dark skies in the area.   |
| VQ6 | The Forest Service Landscape Architect should be consulted to approve the final building style and colors, and fence design prior to construction.  | To ensure appropriate measures have been taken to minimize the contrast between constructed features and the existing landscape character. |

## **Decision Rationale**

After thorough review of the EA and the Response to Comments, I have determined that the Proposed Action meets the purpose and need of the Youngs Canyon to Mormon Lake Substation 69kV Sub-Transmission Line Project in a manner that: (1) is consistent with applicable laws, orders, standards, practices, and guidance including the COF Forest Plan, and (2) protects environmental resources to the extent practicable, while improving the efficiency and effectiveness of power transfer.

This decision, which is in compliance with the COF Forest Plan, also includes a great number of conservation measures to minimize impacts to forest resources to the extent practicable by limiting the timing of certain construction activities and restricting the location of mechanical activities.

## **Public Involvement**

The proposal was listed in the Schedule of Proposed Actions on the COF website on January 1, 2013. On April 9, 2013, the original Proposed Action and accompanying maps were mailed via letters to agencies, organizations, and individuals as well as 13 Native American tribes interested in or determined to be potentially impacted by the Proposed Action (see Chapter Four for the list of agencies and other organizations contacted).

The official start of the 30-day scoping period was April 9, 2013. Announcements soliciting public input on the Proposed Action were also posted on the COF website.

A total of 21 comment correspondence items (e-mail, letter, etc.) were received by the COF concerning various aspects of the project. All comments and a Forest Service response are available in the Project Record. The majority of comments were concerning biological impacts, visual impacts, and a lack of alternatives. APS, working with a third-party consultant and the Forest Service, considerably revised the Proposed Action to address these comments, most notably in terms of visual quality by 1) changing the westward extension from 69kV to 12kV, 2)

moving the substation several miles east away from the Mormon Lake community, and 3) burying the 12kV line through the Mormon Lake meadow to retain the area's scenic quality.

The COF received two inquiries during the EA public review period, which began June 18, 2014 with a legal notice of availability in the *Arizona Daily Sun*, and responded accordingly. The inquiries received were in regards to 1) clarification of the right-of-ways and vegetation maintenance along the proposed sub-transmission line and the existing Western 345kV transmission line, 2) height of the proposed power poles, 3) clarification of the proposed Mormon Lake Substation location, and 4) project schedule.

The Coconino National Forest issued a Draft Decision Notice/FONSI on August 29, 2014 under the 36 CFR218 predecisional objection regulations. No objections were received during this objection time period.

A copy of the scoping document and comments received by the COF and the public review EA notification letter and comments received by the COF can be found in the Project Record, accessible at the COF Supervisor's Office.

## **Alternatives Considered**

Alternatives were assessed on their ability to reasonably respond to the purpose and need for action. Alternatives considered in detail were the No Action Alternative (Alternative 1 in the EA) described below and the Proposed Action (Alternative 2 in the EA) and described in decision section above.

### **No Action Alternative**

Under the No Action Alternative, the proposed 69kV sub-transmission line, Mormon Lake Substation, and 12kv westward extension would not be constructed. Furthermore, 1.44 miles of the CQ-12 Extension to Flying M Ranch would not be removed, including that portion in the Mormon Lake meadow. Voltage problems would continue for communities in the area as well as at the Discovery Channel Telescope.

The following alternatives were considered but eliminated from detailed analysis. The following describes these alternatives and the rationale for each alternative identified and eliminated.

### **Munds Park Alternative**

An alternate 69kV source from the Youngs Canyon Substation is the Coconino-Sedona 69kV sub-transmission line and Munds Park Substation approximately 13.5 miles west of Mormon Lake and FH 3. Using this source would have required rebuilding 1.5 miles of 69kV line to double-circuit west of Munds Park, expanding the Munds Park Substation to accommodate three 69kV breakers, and building 14.5 miles of new 69kV line through the forest between Munds Park and Mormon Lake. This stretch of forest includes numerous sensitive Mexican spotted owl and northern goshawk areas. The line also would not parallel an existing transmission line corridor. It was decided that this alternative would be more difficult to mitigate biology, recreation, and scenery concerns. The new construction of a power line corridor required by this alternative would conflict with COF Forest Plan guidelines to minimize impacts in Region 3

Sensitive and Threatened Species habitat. Based on these impacts, this alternative was considered but eliminated from further analysis.

#### **Alternate 69kV Sub-Transmission Line Westward Extension**

Initial designs, which were shared during public scoping, had called for a 69kV line to extend from the Western line corridor westward to the existing CQ-12 line. Noting agency and public concerns of a larger line crossing the scenic Mormon Lake meadow, which offers views southward to forest and northward all the way to the San Francisco Peaks, as well as proximity to raptor use, APS investigated underground alternatives through the meadow area along FH 3. It was decided that a 12 kV westward extension would be more appropriate to place underground. A 12kV line does not require as much maintenance and does not produce as much heat making it more amenable and cost effective for placement underground. A 12 kV line would still improve the aforementioned voltage issues in the project area. The aboveground portion of the 12kV (versus the 69kV) would minimize /reduce visual and wildlife concerns since the corridor width is reduced from 60 feet wide to 20 feet wide. The upgrading of existing power lines near wildlife habitat required by this alternative would conflict with COF Forest Plan guidelines to minimize impacts in Region 3 Sensitive and Threatened Species habitat as well as be inconsistency with the Bald and Golden Eagle Protection Act. Based on these impacts, this alternative was considered but eliminated from further analysis.

#### **Alternate Mormon Lake Substation Location**

Initial designs placed the Mormon Lake Substation just southwest of where the proposed new 69kV line was to cross FH 3 at the southwestern edge of the Mormon Lake meadow. A desire by the public to construct it further from residences in the Mormon Lake community prompted APS to consider other locations. In response to these concerns, the proposed action was modified to construct the Substation at the junction of FR 125 and the Western transmission corridor. This alternate location was eliminated from further consideration due to aforementioned inconsistencies with the COF Forest Plan.

#### **Alternate Westward Extension Route**

Initial designs placed the westward line extension from the Western line to the CQ-12 line largely along FR 125 for improved line access and to minimize ROW vegetation clearing. Agency and public concerns regarding the placement of this line within a designated 300-foot motorized camping corridor prompted reconsideration. The route now overlaps only 10 feet within the camping corridor to the north and then extends southwestward, crossing FR 125 just east of a draw that contains possible goshawk nesting habitat, before dropping off of Anderson Mesa and then underground across the Mormon Lake meadow.

### **Required by Other Laws or Regulations**

The planning and decision-making process for this project was conducted in accordance with all applicable laws, regulations, policies and plans. This section briefly describes my findings regarding the legal requirements most relevant to this project decision.

#### **National Forest Management Act and 36 CFR 219 Regulations**

The Proposed Action complies with the COF Forest Plan, as amended. This project incorporates all applicable forest-wide standards and guidelines and management area direction as they apply to the project area. All required interagency review and coordination have been accomplished.

The Proposed Action is also consistent with standards and guidelines outlined in the COF Forest Plan (USDA 1987) for powerline corridors, including:

- “Existing direction for developing new transmission”...”corridors is used. Corridors are restricted to planned routes. New electronic facilities are limited to existing designated sites” (page 13).
  - The proposed action incorporates this direction by co-locating the proposed power lines along existing transmission line corridors, power line corridors, and roads to the extent feasible.
- “Use existing corridors to capacity with compatible utilities where additions are environmentally and visually acceptable before evaluating new routes. Overbuilding and under-building are considered for additions” (page 79).
  - The proposed action incorporates this direction by co-locating the proposed power lines along existing transmission line corridors, power line corridors, and roads to the extent feasible.
- “New corridors will avoid wildernesses, research natural areas, geological and botanical areas, Elden Environmental Study Area, and ... the mixed conifer vegetation type” (page 79). The project will not always avoid the ponderosa pine vegetation type.
  - The proposed disturbance corridor would not impact any existing or recommended wilderness, research natural areas, botanical areas, or environmental study areas, or mixed conifer vegetation. A portion of power line construction would involve the removal of ponderosa pine vegetation.
- “New corridors are managed to maintain current resource protection and outputs to the degree possible” (page 80).
  - The proposed action attempts to maintain resource protections by incorporating public comments regarding the location of the power lines and by including the removal of 1.44 miles of existing power line in an area with potential for high scenic integrity.
- “Power-lines and towers are built to specifications compatible with raptor use” (page 80).
  - This has been included as a design feature in the proposed action.

This decision incorporates additional requirements for management in and adjacent to a Mexican spotted owl PAC to ensure it is in conformance with the Plan standards related to the Mexican spotted owl.

**National Historic Preservation Act (NHPA); Archeological Resources Protection Act; American Indian Religious Freedom Act; Executive Order 11593 (Cultural Resources)**

EnviroSystems Management (contracted by Arizona Public Service Company) conducted cultural resource investigations to prepare a complete inventory of archaeological sites, and historic buildings and structures, located within or near the Project rights-of-way and access roads. The inventory efforts included a comprehensive literature search to identify and evaluate previous survey and site recording efforts, as well as an intensive pedestrian field survey of the Project rights-of-way and access roads. Based on the project conservation measures in the

Proposed Action and the requirement to avoid impacts to sites as is feasible, the Proposed Action would have no adverse effect on cultural properties and values as conveyed in the cultural resource report submitted to the State Historic Preservation Office in July 2014. The COF is awaiting concurrence from the SHPO. In addition, implementation of this alternative would not affect tribal access to Federal lands within the project area.

#### **Endangered Species Act**

The **Endangered Species Act (ESA)** (16 USC 1531 et seq.) requires that any action authorized by a Federal agency does not jeopardize the continued existence of a threatened or endangered species, or result in the destruction or adverse modification of the critical habitat of such species. The Proposed Action for this project is the implementation of the action analyzed in the BA for the Youngs Canyon to Mormon Lake Substation 69kV Sub-Transmission Line Project, August 2014, which determined the project may affect, but likely would not adversely affect, the listed Mexican spotted owl. The COF is awaiting concurrence from the USFWS. A review of these documents in conjunction with the EA for this project illustrates consistency between the action analyzed in the August 2014 BA and the Proposed Action for this project.

#### **Bald and Golden Eagle Protection Act**

According to the EA for this project, there are no bald or golden eagle nests within the project corridor. However, if bald or golden eagle nests are identified in the project area, seasonal restrictions on construction activities and vegetation removal in affected areas would be implemented where applicable according to current USFWS protocol to comply with the Bald and Golden Eagle Protection Act.

#### **Clean Water Act**

The Proposed Action complies with the Non-point Source Intergovernmental Agreement signed by the Forest Service (Region 3) and the Arizona Department of Environmental Quality (ADEQ). By employing soil and water mitigation measures, this alternative would have little cumulative effect to perennial waters. Run-off control structures, diversion ditches, erosion-control structures, and energy dissipaters would be cleaned, maintained, repaired, and replaced to meet the standards set by applicable permits and the Storm Water Pollution Prevention Plan (SWPPP), or where such a plan is inapplicable, similar standards set by the COF.

#### **Clear Air Act**

It was determined that the Proposed Action is not anticipated to cause disproportionate adverse human health or environmental effects to air quality. Any air quality impacts that would be caused by construction-related dust or the mobile sources of emissions used to conduct Project activities would be minimal and local and would not cause regional changes to air quality.

#### **Energy Policy Act of 2005**

The Proposed Action is expected to move toward the direction in the Energy Policy Act to comply with applicable energy reliability standards developed in the National Electric Reliability Code.

#### **Executive Order 12898 (Environmental Justice)**

Implementation of the Proposed Action is not anticipated to cause disproportionate adverse human health or environmental effects to minority or low-income populations.

### **Executive Order 13212 (Actions To Expedite Energy-Related Projects)**

Executive Order 13212, signed May of 2001, declares that executive departments and agencies (agencies) shall take appropriate actions, to the extent consistent with applicable law, to expedite projects that would increase the production, transmission, or conservation of energy.

### **Executive Order 13186 (Migratory Birds)**

Executive Order 13186 requires that an analysis be made of the effects of Forest Service actions on Species of Concern listed by Partners in Flight (PIF), the effects on Important Bird Areas (IBA) identified by Partners in Flight, and the effects to important over-wintering areas. The wildlife specialist analyzed the effects of project activities to migratory bird species and found that the Proposed Action would not change the existing forest trend for species of concern.

## **Finding of No Significant Impact (FONSI)**

After considering the environmental effects described in the EA, I have determined that the actions described in the Proposed Action Alternative would not have a significant effect on the quality of the human environment, considering the context of the project area and intensity or severity of impacts (40 CFR 1508.27). Thus, an environmental impact statement will not be prepared. I base my finding on the following:

### **Context and Intensity**

This project is a site-specific action that by itself does not make international, national, regional or statewide decisions. Implementation of the Project Action would permanently impact 135.95 acres (includes vegetation clearing in wooded ROWs; access road improvements; and 69kV pole location sites) and temporarily impact 36.56 acres (includes 60-foot by 60-foot area around each 69kV pole location; 10-foot by 10-foot area around each 12kV pole to be constructed; five equipment/material storage areas; and three washing stations). The scope of this decision is specific to the project area and adjacent communities and private land. Construction of the powerlines and substation would ensure uninterrupted service of electrical power to nearby communities and the Discovery Channel Telescope.

The following discussion is organized around the ten intensity factors described in the National Environmental Policy Act regulations (40 CFR 1508.27) as they pertain to the context of the Youngs Canyon to Mormon Lake Substation 69kV Sub-Transmission Line Project under the Proposed Action alternative:

#### 1. Neither beneficial nor adverse effects are significant.

Direct, indirect, and cumulative effects of the project activities on various resources are disclosed and discussed in Chapter 3 of the EA and associated project record. While this decision is expected to result in minor impacts to some wildlife species and other resources such as scenic quality, these impacts are marginal. As a result, this impact is not expected to rise to level of significance and would not significantly or adversely affect resources in the natural or human environment.

#### 2. There would be no significant effects on public health and safety.

The Proposed Action was developed to address the threat of interruption of the provision of electrical power to nearby communities and the Discovery Channel Telescope therefore

providing for reliable power for the safety of power customers. The project conservation measures and mitigation measures included in this alternative would result in no significant effects to public health or safety.

3. There would be no significant effects on the unique characteristics of the area, such as historic or cultural resources, designated park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (research natural areas).

There are no designated park lands, prime farmlands in the project area. Historic and cultural resources are numerous on the COF and have been found within the project area. The project conservation measures and mitigation measures of the Proposed Action would result in no significant effects to these unique resources (See Chapter 2 of the EA, Design Features). Two very small wetlands occur within the project area. Project conservation measures would result in no significant effects to wetlands (see Chapter 3 of the EA, Soils and Water).

4. The effects on the quality of the human environment are not likely to be highly controversial.

This factor pertains to any disagreement between experts in a given field over the potential effects of this proposal. Public concerns and input have been considered throughout the analysis process, resulting in the refinement of the Proposed Action. For this project, we considered and reviewed numerous publications and research in support of and in opposition to our conclusions about effects to vegetation, wildlife, and other forest resources. We also integrated studies, monitoring results, and published research findings to support our analysis. For this project, I find that the best available science was used and that the effects on the quality of human environment are not likely to be highly controversial from a scientific or technical standpoint. These effects are documented in the EA and are typical for the action proposed.

5. The degree of possible effects on the human environment is not highly uncertain, nor are there unique or unknown risks involved.

The effects analysis in Chapter 3 of the EA discloses the effects related to project construction activities. The selected actions under the Proposed Action are routine in nature, implementing standard practices and protection measures and the effects of power line construction and maintenance activities are well known. These effects are not uncertain, and do not involve unique or unknown risk on the human environment.

6. The action is not likely to establish a precedent for future actions with significant effects.

Power line projects that implement similar actions have occurred in the project area over the past several decades and in various other areas across the COF, as well as on private and State lands over the recent past. Each power line is considered on its own and this project does not result in additional future projects. As a result, this decision is not expected to establish a precedent that would lead to future actions with significant effects.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

The cumulative impacts to different resource areas are discussed and disclosed in Chapter 3 of the EA. None of the effects are determined to be cumulatively significant.

Vegetation treatment, surveys, and transmission line repair work have regularly occurred within parts of the project area for the past several decades. While this decision may include impacts to some wildlife species, scenic resources, and other resources as disclosed in the Environmental Assessment, these impacts are not expected to result in a cumulatively significant impact due to the project conservation measures.

8. The action would have no significant adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places.

Historic and prehistoric resources are numerous on the COF and have been found within the project area. A third-party consultant (contracted by Arizona Public Service Company) conducted cultural resource investigations to prepare a complete inventory of archaeological sites, and historic buildings and structures, located within or near the Project rights-of-way and access roads. The inventory efforts included a comprehensive literature search to identify and evaluate previous survey and site recording efforts, as well as an intensive pedestrian field survey of the Project rights-of-way and access roads. Based on the project conservation measures in the Proposed Action and the requirement to avoid impacts to sites as is feasible, the Proposed Action would have no adverse effect on cultural properties and values. In addition, implementation of this alternative would not affect tribal access to Federal lands within the project area. Consultation with tribal entities and the Arizona State Historic Preservation Office has occurred and no concerns were expressed.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

The Proposed Action for this project is the implementation of the action analyzed in the Biological Assessment for the Youngs Canyon to Mormon Lake Substation 69kV Sub-Transmission Line Project, August 2014, which determined the project may affect, but likely would not adversely affect, the listed Mexican spotted owl. A review of these documents in conjunction with the EA for this project illustrates consistency between the action analyzed in the August 2014 BA and the Proposed Action for this project. The proposed action for Arizona Public Service Company's project mirrors the content of the BA to ensure the consistency and validity of the determinations of affect identified for biological resources in the project area. In addition, the Proposed Action includes project conservation measures to incorporate the terms and conditions of the 1987 Coconino National Forest Land and Resource Plan, as amended, specifically to avoid and minimize impacts to the Mexican spotted owl.

Due to potential noise during construction and some vegetation removal within the project corridor as a result of construction activities, this decision is expected to result in minor impacts to the Threatened Mexican spotted owl because it may affect roosting or foraging birds. However, through the implementation of construction timing restrictions within 0.25 mile of the Mexican spotted owl PAC during the breeding season and vegetation removal outside of the breeding season, a proactive approach as identified in this decision, would reduce roosting and foraging Mexican spotted owl disturbance and would eliminate nesting spotted owl disturbance within and adjacent to the project corridor. As a result, this alternative may only result in minor impacts to threatened or endangered species or critical habitat. Informal consultation with the US Fish and Wildlife Service occurred on the proposed project. The consultation concurred with

the evaluation and determination that the project may affect, but not likely to adversely affect the threatened Mexican spotted owl.

10. The action would not violate any Federal, State, or local law or requirement imposed for the protection of the environment.

The Proposed Action is consistent with applicable Federal, State, and local laws for protecting the environment.

## Implementation

This decision is consistent with the objection process pursuant to regulations at 36 CFR 218. No objections were received during the objection process. The legal notice of the objection period was printed in the *Arizona Daily Sun* on August 29, 2014. The project may be implemented at any time after this decision is signed and permits are issued.

## Contact Person

Additional information regarding this project can be obtained from Judy Adams, Coconino National Forest Lands Team Leader, at [jadams05@fs.fed.us](mailto:jadams05@fs.fed.us) or 928-203-7506.

*for*   
\_\_\_\_\_  
M. EARL STEWART  
Forest Supervisor  
Coconino National Forest

*11/7/14*  
\_\_\_\_\_  
Date

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