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AZ CORP COMMISSION
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December 22, 2008

ORIGINAL

Ms. Shannon Kanlan
Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

RE: Self-Certification Letter for Decision No. 63197

Dear Ms. Kanlan: L-00000U-00-0103-00000

Enclosed is a Self-Certification Letter detailing the status of Diné Power Authority's (DPA) Navajo Transmission Project (Decision No. 63197) for 2007. This Self-Certification letter addresses the stipulations that were issued in the Certificate of Environmental Compatibility for the project. Fourteen copies and one original draft have been provided for your review and distribution. Attached to the letter is the BO issued by USFWS for the Project on March 2, 2007.

DPA appreciates the opportunity to provide you with this information. Please direct any comments or questions to Ms. Arlene Arviso of DPA at 928-871-2133.

Sincerely,

Glenn P. Darrington, PhD.
Project Manager

Enclosure

cc: Arlene Arviso, DPA
file

Arizona Corporation Commission
DOCKETED
DEC 23 2008
DOCKETED BY

NTP

NAVAJO TRANSMISSION PROJECT

SELF-CERTIFICATION LETTER

PREPARED FOR

Arizona Utilities Division Director

SUBMITTED BY

NOVEMBER 2007

1

CONDITION 1

This authorization to construct the new transmission line will expire 10 years from the date the Certificate is approved by the Arizona Corporation Commission, unless construction is completed to the point that the line is capable of operating at its rated capacity by that time; provided, however, that prior to such expiration the Applicant may request that the Arizona Corporation Commission extend the time limitation.

RESPONSE

Diné Power Authority (DPA) expects to construct the Navajo Transmission Line within the timeframe designated in the Certificate. If the proposed project construction schedule is delayed for some reason, then DPA will request an extension of the 10-year time limitation. DPA is currently reviewing the results of the initial system impact study report, which includes Segment 1 of the Navajo Transmission Line. This and the path rating study will be providing as part of a future submittal.

2

CONDITION 2

The corridor for the new transmission line will not exceed 1,000 feet.

RESPONSE

Final design for this project is not complete; however, the corridor within which the transmission line will be constructed and operated will not exceed 1,000 feet.

3

CONDITION 3

The new transmission line will be built in accordance with the mitigation measures specified in the final Construction, Operation, and Maintenance Plan (COMP) concerning the Project. In the event that the new transmission line is constructed along the alternative route described in the application, the Applicant shall ensure that the COMP specifically addresses the alternative route.

RESPONSE

As requested by the federal lead and cooperating agencies the COMP has been renamed the Plan of Development (POD) and is being updated to include current resource, management, and construction information. The Applicant intends to construct the proposed route authorized in the Certificate of Environmental Compatibility Application; however, a final decision regarding this alignment has not been made. Should the Applicant choose to construct the alternative route identified in the Application, all necessary permits will be acquired and modifications to the POD will be completed prior to construction.

4

CONDITION 4

The Applicant will comply with all existing air and water pollution control standards and regulations, and with all existing applicable ordinances, master plans, and regulations of the State of Arizona, Coconino, Yavapai, and Mohave counties; and any other governmental entities having jurisdiction.

RESPONSE

Final design work for this project has not been completed and construction has not commenced. The Applicant will comply with all existing air and water pollution control standards and regulations, and with all existing applicable ordinances, master plans, and regulations of the State of Arizona; Coconino, Yavapai, and Mohave counties; and any other governmental entities having jurisdiction during the construction and operation of the transmission line.

5

CONDITION 5

Construction of the new transmission line on non-reservation land shall not begin until Segment 1, as described in the application, has been constructed and is capable of operating at its rated capacity. However, in the event that all rights-of-way and regulatory approvals have been received for Segments 1 and 3 of the Project, financing has been procured for Segments 1 and 3, and construction of Segment 1 has begun, then construction of the non-reservation portions of the Project may begin prior to the completion of Segment 1, as long as Segment 1 is completed, energized, and capable of operating at its rated capacity, prior to Segment 3 being energized.

RESPONSE

Final design work for this project has not been completed. The Applicant intends to design and construct Segment 1 as the initial development of the proposed transmission line and will comply with the requirements for the sequencing of construction, as stipulated in Condition 5.

6

CONDITION 6

The Applicant will become a member of the Western States Coordinating Council (WSCC) and will file with the Arizona Corporation Commission a copy of the Applicant's WSCC Reliability Criteria Agreement.

RESPONSE

DPA will apply to the WSCC (now called the Western Electricity Coordinating Council [WECC]) prior to the construction of the Project. DPA provides annual updates to the WECC regarding the NTP status.

7

CONDITION 7

The Applicant will provide the Arizona Corporation Commission copies of interconnection studies concerning the Project as and when such studies are performed.

RESPONSE

DPA is currently reviewing the results of the initial system impact study report, which includes Segment 1 of the Navajo Transmission Line. This and the path rating study will be providing as part of a future submittal. DPA will continue to keep the Arizona Corporation Commission informed about any future interconnection studies.

8

CONDITION 8

The new transmission line shall interconnect with the existing 345kV and/or 500kV transmission lines at either or both the Red Mesa or Moenkopi substations. If Segment 2 has not been completed, energized, and capable of operating at its rated capacity, then the new transmission line shall interconnect with the existing 345kV and/or 500kV transmission lines at both the Red Mesa and Moenkopi substations.

RESPONSE

Final design work for this project has not been completed and construction has not commenced. Based on the results of the interconnection studies and the final design for the Project, a decision will be made regarding the interconnection with existing transmission lines at either or both the Red Mesa or Moenkopi substations. The Applicant will comply with the stipulations of Condition 8.

9

United States Department of the Interior
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 FAX: (602) 242-2513

In Reply Refer To:
AESO/SE 22410-1993-F-0330
NESO 1-5-07-F-435
NMESO 2-22-04-F-536

March 2, 2007

Memorandum

To: Director, Navajo Regional Office, Bureau of Indian Affairs, Gallup, New Mexico

From: Field Supervisor

Subject: Biological Opinion for the Navajo Transmission Project

Thank you for your request for formal consultation with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). Your request was dated September 18, 2006, and received by us on September 22, 2006. At issue are impacts that may result from the proposed Navajo Transmission Project (NTP) located in Apache, Navajo, Coconino, and Mohave counties, Arizona, San Juan County, New Mexico and Clark County, Nevada. You requested formal consultation on Mesa Verde cactus (*Sclerocactus mesae-verdae*), the Mojave population of the desert tortoise (*Gopherus agassizii*) (desert tortoise), and critical habitat for the desert tortoise.

In your memorandum you requested our concurrence that the proposed action was not likely to adversely affect the black-footed ferret (*Mustela nigripes*), California condor (*Gymnogyps californianus*), bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), bonytail chub (*Gila elegans*) and its critical habitat, razorback sucker (*Xyrauchen texanus*) and its critical habitat, Colorado pikeminnow (*Ptychocheilus lucius*) and its critical habitat, Welsh's milkweed (*Asclepias welshii*), and Mancos milk-vetch (*Astragalus humillimus*). We concur with your determinations for reasons explained in Appendix A.

You also requested our recommendations regarding possible impacts to the roundtail chub (*Gila robusta*) and Fickeisen plains cactus (*Pediocactus peeblesianus* var *peeblesianus*). Since consultation is not required for candidate and other non-listed species, we do not address those species in this biological opinion. However, we appreciate your consideration of effects to these species and support the measures you have proposed for their conservation.

This biological opinion is based on information provided in the September 2006 biological assessment (BA), 1996 draft environmental impact statement (EIS), various telephone

conversations, field investigations, and other sources of information (see consultation history). Literature cited in this opinion is not a complete bibliography of all literature about the species of concern, transmission line projects and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office.

In addition to the conservation measures that are part of the DESCRIPTION OF THE PROPOSED ACTION, this opinion includes non-discretionary Terms and Conditions for the incidental take of desert tortoise.

CONSULTATION HISTORY

- 5/25/93 Original request for a species list for the proposed action received from Western Area Power Administration (WAPA) who prepared the EIS, and Record of Decision (ROD) in 1997 but withdrew from being the lead Federal agency in 2000.

- 6/28/04 The Bureau of Land Management (BLM), Kingman Field Office, assumed lead status and requested species list from the FWS.

- 7/28/04 The FWS Arizona, New Mexico, and Southern Nevada Field Offices all responded to the species list request by this date.

- 9/16/04 "Update and Review of the Navajo Transmission Project" meeting was held in Flagstaff, Arizona, to discuss the status of the project and the process of planning and compliance, and was attended by the applicant, Diné Power Authority (DPA), Hopi and Hualapai Tribes, Navajo Nation, Bureau of Indian Affairs (BIA), BLM, U. S. Forest Service (USFS), National Park Service (NPS), FWS, and the biological consultant, Environmental Planning Group (EPG).

- 4/4/05 We met with EPG on the preliminary draft BA to discuss potential issues.

- 5/25/05 "Section 7 Compliance Team" meeting, in Flagstaff, with the DPA, Navajo Nation Department of Fish and Wildlife (NNDFWL), BIA, BLM, USFS, FWS and EPG to discuss the proposed action, species of concern, and the section 7 process/schedule.

- 6/30/05 Meeting in Window Rock with DPA, NNDFWL, BIA, FWS, EPG, and biological sub-consultant Ecosphere Environmental Services (EES) to discuss the results of the habitat evaluation for Mesa Verde cactus and potential effects.

- 11/10/05 "Section 7 Compliance" meeting in Flagstaff with DPA, NNDFWL, BIA, BLM, FS, FWS, and EPG to discuss the results of surveys, the analysis of effects, and conservation measures for affected species.

- 8/05-4/06 We reviewed and commented on several preliminary drafts of the BA.

- 11/05-7/06 We participated in meetings and telephone calls to develop conservation measures for Mesa Verde cactus, and reviewed and commented on proposed measures.

- 8/26/06 Letter from the BIA, Navajo Regional Office, stating that they are the lead Federal agency for section 7 consultation.

- 9/18/06 The BIA requested formal consultation with us on the NTP preferred alternative.

- 10/23/06 We responded that we have sufficient information to proceed with formal consultation.

- 12/19/06 We sent the draft biological opinion to consultation participants and tribes for review.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

DPA, a Navajo Nation enterprise, proposes to construct, operate, and maintain the NTP, a 462-mile long, single-circuit, alternating current, 500 kilovolt (kV) transmission line. The NTP will deliver electric power from the Shiprock Substation in the Four Corners area of northwestern New Mexico to the Marketplace Substation in southeastern Nevada (DPA 2000). The projected service life of the NTP is at least 50 years (WAPA 1996).

The BIA, Navajo Regional Office, is the lead Federal agency for section 7 consultation under the Act. Other action agencies are the BLM (Farmington, Kingman, and Las Vegas Field Offices), USFS (Kaibab National Forest), NPS (Lake Mead National Recreation Area), and BIA Western Regional Office. Pursuant to Secretarial Order 3206, the Hopi and Hualapai Tribes and the Navajo Nation are treated as permit or license applicants entitled to full participation in the consultation process, including but not limited to review of the draft biological opinion. The BLM is the lead Federal agency to complete the National Environmental Policy Act process.

The DPA has applied for right-of-way (ROW) permits from the BIA, BLM, USFS, and NPS for those lands under their respective jurisdictions. Each agency will issue its own ROW authorization and would assume responsibility for those conservation measures and/or the reasonable and prudent measures, and their accompanying terms and conditions, for that portion of the ROW they permit.

The preferred alternative for the NTP is identified in the EIS as the Kaibeto 1 for the eastern half of the project area, and the Northern 1 West for the western half. The NTP will consist of three segments. Segment 1 would begin at the Shiprock Substation in New Mexico and extend west 183 miles to the proposed Red Mesa East and West substations south of Page, Arizona. This segment will generally parallel the existing WAPA 230kV transmission line. From the proposed Red Mesa Substation, the NTP will continue south 61 miles to the Moenkopi Substation south of Cameron, Arizona. Nearly all of Segments 1 and 2 are on the Navajo Nation, except a small portion of the ROW on BLM and New Mexico State lands just west of the Shiprock Substation. Segment 3 would extend west from the Moenkopi Substation about 216 miles to the Marketplace Substation in Boulder City, Nevada. Segment 3 would cross land managed by the Navajo

Nation, USFS (Kaibab National Forest), Hualapai Indian Reservation, NPS (Lake Mead National Recreation Area), and BLM, as well as state, municipal, and private lands.

The transmission line would consist primarily of self-supporting, galvanized steel lattice structures, averaging 130 feet in height and spaced about 1,200 to 1,500 feet apart. To reduce visual impacts, the conductors will be nonspecular or treated to reduce reflection. The height of conductors above ground will be a minimum of 29 feet.

The NTP will interconnect with three existing substations, Shiprock, Moenkopi, and Marketplace, requiring about 47, 25, and 10 acres respectively. One or two additional substation sites at Red Mesa East and Red Mesa West may be needed, requiring about 35 acres if constructed.

The ROW width for the NTP is 250 feet. The exact location of the ROW will be determined according to site-specific design and environmental requirements. Certain portions of the ROW have been set and will parallel existing transmission lines. In these areas, there is some potential flexibility for the siting of tower locations a linear distance of up to 400 feet, and up to 50 feet laterally. The NTP centerline, ROW, access roads, and tower locations are based on preliminary engineering and will be refined to reflect changes that occur when more detailed engineering is available. The results of plant and wildlife surveys will be taken into consideration for the siting of structures and facilities during the final engineering process.

Temporary use areas will be needed for tower-construction pads, wire-pulling sites, wire-splicing sites, material-staging sites, and concrete batch plant sites. On large-capacity transmission line projects such as the NTP, helicopters are typically used to string leaders prior to pulling conductor wires. Conductor wires are pulled through pulleys temporarily hung on the tower structures using a pre-hung leader wire. Because conductors are pulled while attached at both ends, the potential for accidentally dropping a conductor wire is very low.

Existing ROW and access roads will be used for most construction and maintenance of the NTP, requiring only minor upgrading in some areas. To access tower sites, spurs off the ROW access road will be developed by driving vehicles overland without prior blading. The proposed transmission line would be adjacent to and parallel existing transmission lines, except along a 21-mile section at the west end of Segment 1, and a 45-mile section further east from near Dennehotso to just west of Tsegi. These sections would require construction of new access roads. In steeper terrain, access may be accomplished by helicopter.

Communication facilities will consist of a fiber optic system that will be placed either into the shield wire or immediately adjacent to the conductors. Regeneration cabinets and solar power collectors will be installed on tower structures. Night lighting and motion detectors will not be required for these facilities.

Post-construction, the transmission line will be inspected annually or as required by using fixed-wing aircraft, helicopters, ground vehicles, or on foot. Maintenance will be performed as needed. Where access is required for non-emergency maintenance and repairs, the same precautions against ground disturbance that were taken during the original construction will be followed (see Conservation Measures).

Any major renovation to the NTP is not included in the DESCRIPTION OF THE PROPOSED ACTION and therefore is not analyzed in this biological opinion. Major renovation includes replacement of one or more conductors or towers.

A Weed Management Plan will be developed and included in the Plan of Development (POD). The Weed Management Plan will include provisions for a pre-construction survey for weeds in the ROW and along access roads outside the ROW, weed control during construction and re-vegetation, and post-construction monitoring and weed control.

Additional information and maps are in the September 2006 BA and the August 1996 EIS, which are incorporated herein by reference.

Note: The DPA and Sithe Global Power, LLC, are proposing the Desert Rock Energy Project (Desert Rock), which includes construction and operation of a coal-fired power plant that would produce up to 1,500 megawatts (MW) of power and be located about 21 miles south of the Shiprock Substation, the point of origin for the NTP. The proposed facilities include up to two 750-MW generation units and two 500-kV transmission lines that would go 15 miles to the Arizona Public Service Company's (APS) Four Corners Generating Station. From the Four Corners Generating Station, one 500-kV transmission line would go 11 miles to interconnect with the NTP west of the Shiprock Substation. The purchasers of Desert Rock power are expected to be the major utilities in New Mexico, Arizona, and Nevada. Although a transmission line from Desert Rock may be interconnected with the NTP, Desert Rock would be developed independent of the NTP. If the NTP was delayed or not developed, two options would be available to Desert Rock: only one generation unit would be constructed or APS would reconfigure their transmission facilities to increase capacity (Tom Johns, Sithe Global, personal communication). Desert Rock has independent utility apart from the NTP and does not depend on the NTP for its justification. Therefore it is neither interdependent with nor interrelated to the NTP. Desert Rock will require Federal approval and therefore will be subject to subsequent section 7 consultation under the Act.

Conservation Measures

The DPA, BIA and other action agencies propose the following conservation measures to minimize the effects to the Mesa Verde cactus and its habitat, the desert tortoise and its habitat, and designated critical habitat for the desert tortoise. The following measures are in the September 2006 BA, and follow the format in the BA.

Mesa Verde Cactus

Items 1 through 13 apply generally to all areas where Mesa Verde cactus or habitat occurs, including the proposed Malpais Conservation Area (conservation area) (see STATUS OF THE SPECIES, Mesa Verde cactus section for a description of the conservation area). Items 14 through 18 include specific measures for the portion of the NTP to be located within the conservation area. Items 19 and 20 are contingent on approval and/or implementation by the Navajo Nation. The BIA, Navajo Regional Office, is responsible for ensuring implementation of all conservation measures on the Navajo Nation. The BLM, Farmington Field Office, is responsible for conservation measures within their management area (items 1 through 13, as appropriate).

General

1) Intensive pre-engineering surveys were conducted in Spring 2006 to map all Mesa Verde cacti and associated habitat within the ROW and 100 feet on either side of the ROW, and to map and classify unoccupied cactus habitat that may be disturbed by construction, operation, or maintenance of the transmission line. The pre-engineering map will include locations from prior surveys (e.g., Navajo Natural Heritage Program (NNHP) on-going inventory, EES 2005 survey). Unoccupied habitat will be classified in terms of quality based on substrate suitability, the degree to which suitable substrate is fragmented or isolated, previous presence of cacti (based on NNHP records), and proximity to occupied habitat.

2) Based on the results of the pre-engineering surveys, a detailed Mesa Verde Cactus Construction Plan will be developed for the purposes of avoiding cacti and minimizing disturbance of habitat to the greatest extent practicable. The construction plan will include a map of all cacti identified as part of prior surveys, habitat classification by quality, and all construction work areas. The construction plan will be submitted to the FWS, NNDFWL, and the BIA for review. In order to discourage illegal harvesting of cacti, locations of cacti will be kept confidential and no universal transverse mercator coordinates or similar location data will be included in the final reports. The Construction Inspection Contractor (CIC) and biological monitor(s) will be the only individuals with detailed cacti location information. All comments will be addressed and incorporated into the plan, as appropriate, prior to construction. The plan, without the maps of specific cacti locations, will be included in the project POD and adherence to the recommendations included therein will be a requirement of the construction contractor.

3) Construction areas, including tower sites and spur roads, will be located in coordination with project engineers and resource specialists to avoid individual cacti and habitat identified during the surveys. Wire-pulling and wire-splicing sites, materials staging areas, and concrete batch plant sites will be evaluated for the presence of individual cacti prior to clearing any vegetation necessary in order to store equipment on site. Placement of these areas will be within, or will be as near as practicable, to existing roadways and/or heavily used areas. The siting of these areas also will take into consideration indirect effects from operation and maintenance (e.g., long-term utilization of access roads in areas where cacti are known to occur) as well as effects related to potential increase of access by off-highway vehicles (OHVs). The pre-engineering surveys will be used to determine the level of impact on cacti or their habitat in areas of conventional access.

4) To the extent practicable, the placement of spur roads will minimize disturbance to Mesa Verde cactus habitat. Overland spurs will be located as far as practicable from areas known to contain individual Mesa Verde cacti based on the results of Mesa Verde cactus surveys (i.e., pre-engineering survey and compilation of prior survey results and pre-construction surveys). Spur roads sited closer than 50 feet from known individual cactus locations will be monitored when vehicular traffic is present at the discretion of the biological monitor. The approximate locations of overland spur access roads have been and will continue to be field-evaluated by project engineers and biologists, and will be included as part of the detailed maps included in the POD or as-built documentation. The locations of these spur roads will be further refined once final engineering has been completed and the

exact locations of the tower sites are determined, and will be located to take advantage of existing disturbance, slope, and topography to the greatest extent possible. The edges of the overland spur access roads will be flagged in the field.

Overland spurs will not be bladed and construction personnel will be advised to follow existing tire tracks within the designated area and minimize their trips along these spurs to the extent possible in order to reduce disturbance. When construction is complete, all tower sites and spur roads will be hand-raked to remove tire tracks. An emphasis will be placed on obscuring access points at intersections with paved and improved dirt roads and re-creating the topography and natural barriers (e.g., washes). Reclamation techniques will be specifically designed to address site-specific soil properties and the potential for long-term erosion.

5) Pre-construction surveys for Mesa Verde cacti will be conducted in the spring of the year preceding the initiation of construction to identify any new cacti. All areas that may be affected (directly or indirectly) by construction, operation, or maintenance of the line or access road, within the 250-foot ROW and access roads outside the ROW will be surveyed. The locations of any additional cacti identified during pre-construction surveys will be added to the project maps developed for the POD. Appropriate mitigation will be developed and reviewed with the BIA, and other applicable agencies, and included in the POD.

6) A worker education and awareness program for Mesa Verde cacti will be developed and presented to all personnel who will be on site during pre-construction surveying and construction. The program will include information on the legal and biological status of Mesa Verde cactus, the importance of habitat, the occurrence of cactus and unoccupied habitat in the study area, conservation measures, fines and penalties for damaging or removing cacti, and reporting procedures to be used if cacti not previously identified are discovered or disturbed cacti are discovered. A simple pamphlet or card summarizing critical information for avoiding cactus and minimizing effects on habitat will be provided to all field personnel.

7) Qualified biologists will be on site to monitor avoidance of cacti and habitat during all construction-related activities, including the initial delineation of construction exclusion areas (e.g., fenced and flagged areas). All sites where Mesa Verde cacti are present will be monitored daily. Construction activity within 200 feet of a cactus site will be monitored continuously during construction activity. Disturbance to cacti will be reported to the BIA and the NNDFWL. Any disturbance to cactus or habitat observed by construction personnel within or outside the construction zone will be reported immediately to the biological monitor or the CIC. A written account including a map, the extent of the disturbance, the number of cacti and/or quantity of habitat disturbed, and the circumstances surrounding the disturbance will be submitted to the BIA within 48 hours. The incident reporting procedures for all construction activity is part of the project POD.

8) Access roads and tower sites in areas where Mesa Verde cacti are present will be enclosed with construction fencing (e.g., high visibility, polyethylene warning barrier), at the discretion of the biological monitor. Fencing along access roads will extend 200 feet in both directions beyond the limits of areas that contain cacti or designated suitable habitat. Any cacti located within the ROW will be enclosed with construction fencing including, where possible, a buffer radius of 50 feet around the cacti. All project personnel will be instructed

that their activities must be confined to the designated construction area. All construction fencing will be inspected daily by the on-site biologist and maintained in a functional capacity by the contractor.

9) All traffic will be restricted to the ROW, designated work areas, and authorized access roads. Overland spur roads will be used in areas to minimize surface disturbance and will be staked or flagged in the field. Cross-country travel will be strictly prohibited.

10) The pneumatic cleaning of construction equipment will be required before it is permitted on the ROW, as well as when equipment is moved from an area where noxious plant species are known to be present. Water shall not be used to clean equipment since it may provide moisture for germination of noxious weed seed that may be present.

11) Because of the delicate nature of soil structure in areas that support Mesa Verde cacti, no post-construction reseeding will be implemented. Such soils are typically fine-grained, possess a low cohesion and in-place density, and are highly subject to erosion. Disturbance to soil structure during revegetation efforts conducted in these types of soils can accelerate erosional processes, which are known to be detrimental to Mesa Verde cacti (Ladyman 2004). Reseeding would establish plants in Mesa Verde cactus habitat, in some instances where there is currently minimal vegetation that would compete with the cacti for water and other resources. A restoration plan for all areas of disturbance will be included in the POD.

12) Routine post-construction inspections of the line in Mesa Verde cactus habitat will be performed using aircraft. For minor maintenance or repair of structures or line that may be required, access will be accomplished by helicopter. If extensive repairs are required, all stipulations governing the placement and restoration of access routes covered in this document will be required, except for the access road west of U.S. Highway 491 (US 491), where upgrading was performed by WAPA in 2006 (D. Roth, pers.comm.). The upgrade of this road by WAPA limits the potential effectiveness of restoring this area to a primitive condition. DPA will coordinate NTP maintenance activity with WAPA and the NNDFWL in order to minimize new disturbance. Surveys for Mesa Verde cactus will be required prior to any ground disturbing activities for maintenance. Survey results will be valid for three years.

13) Individual Mesa Verde cacti that cannot be avoided during the construction process will be transplanted in cooperation with the NNDFWL or the BLM in accordance with the POD. Transplanted cacti will be monitored for a minimum of 5 years. Funding for transplanting and monitoring will be provided by the DPA. The applicable permit(s) will be obtained for transplanting Mesa Verde cactus.

Proposed Malpais Conservation Area for Mesa Verde Cactus

The following mitigation measures, numbers 14 – 18, will be implemented to minimize impacts to Mesa Verde cacti and to reduce the potential unauthorized use of the area by OHVs during and after the construction of the transmission line inside the conservation area. Refer to the following figures in the September 2006 BA for more information: Figure 2 illustrates the conservation area, the location of the existing WAPA 230kV transmission line and the proposed NTP alignment, and additional information regarding ingress/egress roads; Figure 3 illustrates the approximate location of improvements associated with wash crossings

that would be required along the existing access road. Figure 3 is out of date; the WAPA recently made improvements along the access road in many of the illustrated locations. However, erosion within washes in the conservation area may occur rapidly and so these locations may require improvements at the time of construction. Also, there is at least one location, between proposed tower locations 17/4 and 17/3 where the secondary access road will cross a wash. The stipulation to return washes to their pre-construction configuration applies to this specific wash and any other location where a wash crossing requires road improvements. Figure 4 is a conceptual illustration of these road improvements, which would be returned to pre-construction condition after construction is complete.

14) No new access roads will be required for the construction of the project within the conservation area. Overland spur roads will be used to access new tower sites and will be developed from the existing access road associated with the WAPA 230kV transmission line to the new tower sites. This road has been authorized for NTP construction use by the Navajo Nation and will serve as the primary east-west travel route for ground equipment used in the construction of the line.

15) Some improvements to the existing access road associated with the WAPA 230kV transmission line are anticipated and will consist primarily of grading the edges of washed out areas to allow for the temporary passage of vehicular traffic. Grading at these locations will occur along the existing access road and the banks of the washes will be sloped to approximately 5:1 to accommodate driving into and out of the wash. In most cases, this will be accomplished by grading the existing roadbed and shaping the slope with the use of native materials. There may be some conditions where the import of riprap (rock) and a road surface aggregate will be necessary. This treatment will have little or no impact to the storm flow of the wash; however, any necessary coordination with the Navajo Nation Environmental Protection Agency will be required. Any earthwork that extends into the visible flow line of the wash will be removed and the banks of the washes will be returned to pre-construction conditions.

Ingress and egress to the NTP ROW and the existing access road associated with the WAPA 230kV transmission line will be accomplished through use of four primary points of entry to the ROW as identified on Figure 1 and as described on page 83 in the September 2006 BA.

These routes also have been reviewed and approved by the Navajo Nation and are included in the Navajo Nation ROW grant for the NTP as acceptable for use in constructing the transmission line. These routes are located outside of the conservation area. Some limited improvement to these roads may be required; however, the surface conditions for the majority of these roads are suitable for construction vehicle access without improvement. Some areas may require limited grading to establish an even surface condition. The grading to repair uneven conditions will be accomplished with light duty equipment such as a rubber-tire tractor using a scraper blade. The earthwork will be balanced on site with the required material obtained from the existing roadbed to avoid the introduction of weeds or invasive species. In these areas, no excavation beyond the defined edges of the existing roadways or the use of imported soil will be required.

16) Following the completion of the tower installation, the portions of the access roads where limited grading was performed will be evaluated to determine if natural drainage

patterns have in any way been altered. If necessary, the roadway will be repaired (in most cases with hand tools) to re-establish natural drainage patterns. Scraped areas also will be ripped to loosen compacted soils and chain-dragged to remove tracks.

17) The level of impact from surface disturbance associated with the construction of the line within the conservation area will be determined. If impacts to known cacti locations are determined to be unavoidable through mitigation, helicopter construction of towers may be used to further reduce potential impacts. DPA, in coordination with the BIA and other action agencies, will review the need for helicopter-use after the pre-engineering and pre-construction surveys. Some ground access to tower sites will be required if helicopter construction is used and procedures for this activity will be developed with the BIA, and other appropriate agencies, and included in the Construction Plan described in Item 2.

18) Construction equipment storage areas, material storage areas, wire-pulling and wire-splicing sites, and concrete batch plant sites will not be located within the conservation area. Exceptions to this measure are the location of two pulling/tensioning sites, one between proposed tower locations 17/1 and 17/2, and one between locations 19/3 and 19/4. Neither site is located closer than 200 feet from known Mesa Verde cactus occurrences.

Navajo Nation-contingent actions

The DPA is committed to implementing and/or funding the following measures provided they first receive the approval by or commitment from the appropriate regulatory agencies.

19) Single locked gates will be installed on each of the two dirt roads located about ½ mile and one mile north of the intersection of the road that leads to Access Point "B" (see Figure 2 in the September 2006 BA) at their intersections with the west side of US 491. Additionally, a locked gate will be installed on the transmission line access road(s) at the intersection with US 491 on its east side.

Two signs will be installed along the WAPA 230kV transmission line access road at strategic intersections east of US 491 to discourage travel along the ROW into Mesa Verde cactus habitat: the first will be located east of proposed tower 13/2 to discourage westward vehicular travel; the second will be located west of proposed tower 7/1 to discourage eastward travel. These signs will alert travelers to the sensitivity of the area and notify them that access is allowed only to authorized vehicles. Signs previously installed by WAPA west of US 491 read, "DEAD END - ACCESS FOR MAINTENANCE ONLY - ECOLOGICALLY SENSITIVE AREA..." Contact the NNDFWL for their recommended text.

Installation of the gates outside the ROWis contingent on Navajo Nation approval.

20) The NNDFWL will develop a management plan for the conservation area that will include annual Mesa Verde cacti surveys and monitoring of the conservation area. DPA will provide financial support to the NNDFW for the performance of annual surveys and monitoring on the portions of the conservation area that the NTP would cross. It is anticipated these surveys and monitoring will require approximately four days per year.

When the proposed Malpais Conservation Area is officially designated by the Navajo Nation then it may be withdrawn from further development. If this area is designated, the proposed transmission line route could possibly be permitted, but may require the use of helicopters for construction to preclude the creation of new cross-country access (Smith 2005).

Desert Tortoise

The proposed transmission line would pass through approximately 26 miles of suitable habitat for the desert tortoise in Nevada, within lands administered by the BLM and the NPS, and on non-Federal land. The anticipated disturbance related to this construction could directly affect desert tortoises. These are tortoises that are anticipated to be present within the ROW, and that will be moved during the pre-construction clearance survey. To avoid impacts to tortoises and their habitat in areas of high tortoise density, re-siting of pole locations, spur roads, tensioning pull sites, and laydown areas will be accomplished as needed, and as practicable, in accordance with the POD. Within their respective jurisdictions the BLM and the NPS are the agencies responsible for implementing conservation measures for the desert tortoise.

A biologist trained and qualified to work with desert tortoises will be present on the site whenever construction occurs in suitable tortoise habitat. This tortoise monitor will work with the construction crews to avoid impacts to tortoise habitat. The monitor will be present during any ground-disturbing activities to ensure that tortoises are not accidentally killed. The monitor will be responsible for moving tortoises that are found on access roads or construction pads. All members of the construction crew that would be working on the project in Nevada will be given an orientation course in tortoise biology, conservation, and legal consequences of "take," to increase their awareness of the sensitivity of this species.

All temporary disturbances will require restoration efforts consistent with the POD. The POD details restoration methods that are predicated on the quality of desert tortoise habitat and the degree of the disturbance.

The following measures are taken from the September 2006 BA, with certain changes to reflect the most current knowledge about desert tortoise conservation (e.g., period of highest desert tortoise activity) and most recent language being used in FWS biological opinions. The format of the conservation measures (i.e., letter indicators) follows the format of the BA.

A) A pre-activity desert tortoise education program shall be presented by the authorized desert tortoise biologist, biological monitor or other authorized person to all personnel that will be present on-site during construction of the proposed project in Nevada. The program will show personnel how to identify desert tortoise and its sign, and will include information on the biology and distribution of the desert tortoise, its legal status and occurrence in the project area, the definition of "take" and associated penalties, the measures designed to avoid and minimize the effects of project activities, methods employees can use to implement the measures, and reporting procedures to be used when desert tortoises are encountered. A pamphlet that outlines basic critical information on dealing with tortoises encountered on the project will be provided to all personnel attending the program.

B) The boundaries of all areas to be disturbed shall be flagged before beginning any activities, and all disturbances shall be confined to the flagged areas. All project personnel will be instructed that their activities must be confined within the flagged areas. Disturbance beyond the construction zone is prohibited. Authorized desert tortoise biologists and/or monitors will be assigned to ensure that construction activities occur in designated areas.

C) Temporary tortoise fencing or ramps shall be installed at work sites, when determined necessary by the BLM or NPS. All fencing and/or ramps shall meet requirements established by the FWS and will be checked and repaired/replaced, as needed to ensure a tortoise barrier is maintained.

D) Prior to initiation of surface-disturbing activities, an authorized desert tortoise biologist shall conduct a clearance survey to locate and remove tortoises using techniques that provide full coverage of all project areas within desert tortoise habitat. Two passes of complete coverage shall be conducted. All desert tortoise burrows, and burrows constructed by other species that might be used by desert tortoises, will be examined to determine occupancy of each burrow by desert tortoises and handled in accordance with Conservation Measure "E" below.

E) All potential desert tortoise burrows located within the project area proposed for disturbance shall be flagged and avoided during construction, if possible. Burrows that cannot be avoided, whether occupied or vacant, shall be excavated by hand by an authorized desert tortoise biologist and collapsed or blocked to prevent occupation by desert tortoises. All burrows will be excavated with hand tools to allow removal of desert tortoises and/or desert tortoise eggs which are typically located near the burrow entrance. All desert tortoise handling and removal, and burrow excavations, including nests, shall be conducted by an authorized desert tortoise biologist in accordance with the FWS-approved protocol (Desert Tortoise Council 1994, revised 1999). If the Desert Tortoise Council releases a revised protocol for handling of desert tortoises before initiation of project activities, the revised protocol shall be implemented for the project area.

F) If moved out of harm's way, all desert tortoises and desert tortoise eggs shall be relocated 300 to 1,000 feet offsite into adjacent undisturbed habitat on public land in accordance with FWS-approved handling protocol (Desert Tortoise Council 1994, revised 1999). A pair of new, disposable latex gloves will be used for each tortoise handled. After use, the gloves will be properly disposed. Tortoises located above ground will be placed under a marked bush in the shade, in an unoccupied burrow of similar size/orientation, or a burrow constructed by the authorized biologist in accordance with Section B-5-f (Desert Tortoise Council 1994, revised 1999). Any tortoise located within one hour before nightfall will be placed individually in a clean cardboard box and kept overnight in a cool, predator-free location. To minimize stress to the tortoise, the box will be covered and kept upright. Each box will be discarded after one use. The tortoise will be released the next day in the same area from which it was collected and placed under a marked bush in the shade.

G) Vehicles shall not exceed 20 miles per hour on access roads during the period of highest desert tortoise activity (March 1 through October 31). Speed limit signs will be installed. Caution signs indicating the presence of desert tortoises will be posted at the beginning of the

access road and midway to the project site. Authorized desert tortoise biologists will monitor speed limit compliance during construction.

H) Trash and food items will be promptly disposed in predator-proof containers with resealing lids. Trash containers will be emptied daily, and waste will be removed from the area and disposed in an approved off-site landfill. Construction waste also will be removed each day and properly disposed.

I) A raven nest monitoring/removal program, in compliance with the Migratory Bird Treaty Act, will be developed and implemented.

J) Fuel, transmission or brake fluid leaks, or other hazardous waste leaks, spills or releases shall be reported immediately to the designated environmental supervisor. The supervisor shall be responsible for spill material removal and disposal to an approved off-site landfill, and if necessary, will notify the appropriate Federal agency. Construction equipment servicing will occur at a designated area on privately owned lands.

K) To avoid disturbance to tortoise habitat and the potential for construction-related tortoise mortality, the following measures will be implemented:

1) Cross-country travel and travel outside designated areas (i.e., construction zones) will be prohibited.

2) To the greatest extent possible, wire-pulling and wire-splicing sites, and material staging and concrete batch plant sites shall be located on previously disturbed areas. This includes temporary storage areas, laydown sites, and any other surface-disturbing activities. Efforts shall be made to minimize impacts on vegetation and soils in all work areas.

3) Tower foundation or other excavations that pose a potential to entrap or injure tortoises shall be inspected on a regular basis until the foundation or other structure is in place. Excavations also will include an escape ramp where appropriate.

4) During all construction-related activities, qualified biologists will be on site to monitor for tortoises, move tortoises if necessary, provide instruction as needed, and monitor and report on compliance. One biologist will be present at each activity area or with each group of equipment.

L) The Desert Tortoise Management Oversight Group proposed compensation for disturbance of Mojave population desert tortoise habitat in 1991. In accordance with FWS requirements, mitigation fees based on acres of disturbance to desert tortoise habitat (including critical habitat) on public lands will be required. DPA will provide these funds to Clark County, Nevada (Desert Tortoise Public Lands Conservation Fund). Disturbance of desert tortoise critical habitat on private lands (Boulder City Conservation Easement) also will require compensation. DPA will provide these funds to the Clark County Multi-Species Habitat Conservation Plan.

M) Public access shall be permanently restricted in tortoise habitat along the Nevada portion of the project to minimize potential impacts to desert tortoises from vehicle encounters. This minimizes potential impacts to desert tortoises and other wildlife from OHV-use while minimizing dust generation by such activity. Permanent restrictions shall be accomplished by BLM designating and posting the existing transmission line access road as 'access limited to existing roads and trails.' All new spur roads for this project will be rehabilitated and/or designated and posted as closed. As alternative mitigation, other closed roads in the area could be rehabilitated (BLM 2005).

N) If the current alignment should change prior to initiation of construction, new tortoise surveys will be conducted for the new alignment. In any event, clearance surveys will be conducted prior to the initiation of any construction activities on the project.

STATUS OF THE SPECIES

MESA VERDE CACTUS

Mesa Verde cactus was listed as a threatened species on October 30, 1979 (USFWS 1979). No critical habitat was designated. When listed, existing or potential threats included coal, oil, and gas exploration and production; commercial and residential development; road, powerline, and pipeline construction; commercial and private collecting; OHV impacts; livestock trampling; and natural threats of disease and predation.

The Mesa Verde cactus is a long-lived perennial that grows slowly. It is small, globose, usually single-stemmed, and typically 3.2 - 6.6 centimeters (1.5 - 3 inches) in diameter. The spines are 6 - 13 mm (0.25 - 0.50 in) long in clusters of 8 - 11. The flowers are about 2 cm (0.75 inch) in diameter, cream to yellow-colored, and bloom in late April or early May. Mesa Verde cactus grows in clay soils derived from shales of the Mancos and Fruitland formations. These formations erode easily forming low rolling hills. The soils have high alkalinity, are gypsiferous, and have shrink-swell properties that make them harsh sites for plant growth. Cracks in the soil, where seeds may fall, are thought to be an important microhabitat feature for germination and/or establishment (Ladyman 2004). The sparse vegetation is dominated by two species of saltbush (*Atriplex corrugata* and *A. nuttallii*) on the uplands and several species of forbs and grasses (*Chrysothamnus greenei*, *Sphaeralcea coccinea*, *Abronia elliptica*, *Sporobolus cryptandrus*, and *Hilaria jamesii*) in the drainages.

Mesa Verde cactus has an oblong range, running north to south about 75 miles and east to west about 30 miles, within which occurrences are scattered and distribution is sporadic. This range is roughly centered on Shiprock, New Mexico on the east-west axis, and from north to south it extends from about 10 miles north of the Colorado-New Mexico border to Naschitti, New Mexico. The Mesa Verde Cactus Recovery Plan estimates 5,000 to 10,000 plants occur within the species' range, but this number is probably low (Spellenberg 1978, USFWS 1984) and was not based on representative surveys. The number of individuals of cacti per unit area varies tremendously. As many as 20 individual plants have been seen within 50 square meters or as few as a single specimen with no other Mesa Verde cacti within several hundred meters. Although shale badlands occur throughout the species overall range, Mesa Verde cactus only inhabits a small fraction of these soils. It has an uneven distribution throughout its range, tending to form major populations within certain favorable habitats (Spellenberg 1978, Knight

1981, USFWS 1984). The largest concentration, in terms of geographic extent and number of occurrences, is within 10 to 15 miles of Shiprock, New Mexico. Other areas are in Montezuma County, Colorado near the base of the Mesa Verde Escarpment to the Colorado-New Mexico state line, and in San Juan County, New Mexico, north of Waterflow, between Sanostee and Mitten Rock, and between Sheepsprings and Nashcitti.

Most Mesa Verde cactus populations occur on tribal lands. Perhaps 70 percent of occurrences are on the Navajo Nation and another 20 percent on the Ute Mountain Indian Reservation. The other 10 percent of the populations occur east of the Hogback on private lands and on public lands administered by the BLM. As of 2004 there were over 56 areas, covering 4,723 acres, on the Navajo Nation where Mesa Verde cactus were documented at one time (Ladyman, 2004).

Until the year 2002 Mesa Verde cactus populations appeared to be generally stable with regular but infrequent significant episodes of mortality and recruitment occurring against a background of small population changes. During a 10-year period (1986-1995) at a monitoring plot on BLM land, 240 new plants were found and 230 were lost (New Mexico Forestry Division 1995). The reason for most mortality could not be determined, but a small number could be attributed to OHVs, cattle trampling, rodent predation, cactus poaching, and investigator damage. The greatest population increases came after the wet year of 1990, which followed two years of extreme drought. At three monitoring plots on the Ute Mountain Ute reservation in Colorado, over a 19-year period, average mortality rates varied from five to 10 percent with rare die-offs of greater than 25 percent averaged over the study population. The main cause of mortality was predation by the longhorn beetle (*Moneilema semipunctatum*). This pattern of relative stability with periodic fluctuations was also observed at monitoring plots on the Navajo Nation (Ladyman 2004). However, four years ago cactus populations experienced a precipitous decline.

From 2002 to 2003, Mesa Verde cactus numbers declined 97 percent in the BLM monitoring plots (J. Kendall, pers. comm.). From April 2002 to April 2003, Mesa Verde cactus numbers within Colorado monitoring plots declined 20.4 percent (Coles 2003) with an additional 15 percent recorded as being in poor condition with a high likelihood of mortality. During this same period Mesa Verde cactus mortality in Navajo plots was 55 to 83 percent (D. Roth, pers. comm.). Across the range of Mesa Verde cactus on the Navajo Nation within 56 areas, covering 4,723 acres where the species was previously documented, only 948 cacti were counted in 2004 (Ladyman 2004). Some of these areas were reported to have 1,500 or more cacti prior to 2002. In 2004 few sites supported more than 20 individuals. At the former Sheepsprings monitoring plot where hundreds of plants were previously documented, no Mesa Verde cacti were relocated (Ladyman 2004). Causes for this rangewide decline are attributed to the drought of 2001 to 2003 which created conditions favorable for animal and insect predators (Coles 2004). High mortality in the BLM area appear to be related to an infestation of army cutworms (*Euxoa* spp.) (BLM 2003).

Recovery from the decline in population numbers across the range of Mesa Verde cactus appears to be modest to date. The number of individuals on the four BLM monitoring plots increased from 10 to 29 from 2003 to 2006 (BLM 2006). In Colorado, between May 2003 and April 2004 there was a 24.5 percent increase in stems, almost entirely due to continued sprouting of stems damaged by longhorn beetles and other agents during the drought (Coles 2004). Recovery at the Navajo monitoring plots has also been slow (D. Roth, pers. comm.). Coles speculated that low recruitment through seed germination may be because Mesa Verde cactus seeds are short-lived

and virtually no seed bank remains after two years of drought, during which time there was little to no seed production. If this is the case, then as more plants set seed there should be a corresponding increase in cactus numbers due to germination.

The Navajo Status Assessment recommended establishment of four conservation areas (Ladyman 2004). These areas are important for the long-term viability of Mesa Verde cactus on the Navajo Nation (D. Roth, pers. comm.). The largest of these is the Malpais Conservation Area, estimated to be 7,416 acres in area. Based on biological and ecological criteria, the viability of Mesa Verde cactus occurrences in this area was rated as good to excellent. However, based on a moderate level of anthropogenic disturbance, such as vehicle tracks, the area was given an overall rating of good to fair (Ladyman 2004). Currently, the NNDFWL has proposed this area for official recognition by the Navajo Nation (D. Roth, pers. comm.). The NTP would pass through or border about 4.5 miles of the conservation area.

Numerous activities in Mesa Verde cactus habitat have required section 7 consultation, but only four have resulted in formal consultations. A formal consultation was conducted with the Federal Water and Power Resources Service in March 1980 resulting in a non-jeopardy biological opinion with conservation recommendations. The action was the Gallup-Navajo Indian Water Supply Project, which proposed to deliver domestic water in a buried pipeline from the San Juan River to several communities in northwestern New Mexico. The project had the potential to impact about 200 cacti. A formal consultation was conducted with BIA in May 1985 (File #2-22-83-F-039). The action was improvements to Navajo Route 36 from Shiprock to Fruitland that would impact 40 plants. A non-jeopardy biological opinion was given with recommendations that the plants be transplanted to a safe locality and that transplanting success after one year be reported to the FWS. A formal consultation was conducted with BLM in February 1997 (File #2-22-96-F-010). The proposed action was continued implementation of the BLM, Farmington District, Resource Management Plan (RMP). A non-jeopardy biological opinion was given with the conclusion that management provisions and protective measures in the RMP were sufficient to prevent adverse effects to the cactus. No conservation recommendations were given. The final formal consultation was conducted with the BIA in 2000, on the proposed Shiprock Northern Navajo Fairgrounds located on the Navajo Nation, San Juan County, New Mexico (File #2-22-99-F-467), and concluded with a non-jeopardy biological opinion with conservation recommendations.

Numerous commercial activities are occurring within Mesa Verde cactus habitat. Oil, gas, and coal resources are all being developed in the area. Associated development includes roads, pipelines, powerlines, and expanding commercial and residential development. Road realignments and upgrades to serve rural communities in the vicinity of Shiprock are known to have impacted Mesa Verde cactus. The installation of new water pipelines to serve rural customers has also impacted some plants and habitat.

The sparsely vegetated rolling hills occupied by Mesa Verde cactus are attractive to OHV enthusiasts. The potential for OHV impacts is greatest near towns. Mesa Verde cactus populations that occur in the suburban fringes of Farmington and Shiprock have been impacted by OHVs in the past, and this threat continues.

Mesa Verde cactus is a rare species attractive to some cactus enthusiasts. Because of its specialized soil requirements, it is difficult to grow in cultivation and, therefore, not readily

available from legitimate commercial sources as are many other endangered cacti. Illegal collecting was observed during the 1995 monitoring study, and several instances of suspected illegal collecting have been reported (New Mexico Forestry Division 1995). The overall impact of illegal collecting is probably minor, but it can be significant in populations that are known to collectors and visited repeatedly.

Livestock impacts are the result of trampling. There is little available forage in Mesa Verde cactus habitat so livestock numbers are usually low. There have been some reports of livestock trampling in monitoring plots, but this is considered a minor threat.

Impacts to Mesa Verde cactus populations from predation or disease can be significant. A species of moth lays its eggs on Mesa Verde cactus plants and the larvae burrow into the interior (USFWS 1984). Plants then rot and die. This moth also infects cacti in the genus *Opuntia*. Such a predator may explain the scattered distribution of Mesa Verde cactus because dense populations of plants would be more susceptible to attack than scattered individuals. These threats as well as past and present projects contribute to the environmental baseline of the cactus.

DESERT TORTOISE

Following is a summary of the Status of the Species for the desert tortoise, with discussion pertinent to this project. The entire Status discussion is part of the project administrative record on file in our office.

On August 4, 1989, the FWS published an emergency rule listing the desert tortoise as endangered (54 FR 42270). On April 2, 1990, FWS determined the desert tortoise to be threatened (55 FR 12178) on the basis of: significant population declines; loss of habitat from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture; habitat degradation by grazing and OHV activities; illegal collection of desert tortoises by humans for pets or consumption; upper respiratory tract disease (URTD); predation on juvenile desert tortoises by common ravens (*Corvus corax*) and kit foxes (*Vulpes macrotis*); fire; and collisions with vehicles on paved and unpaved roads. Critical habitat was designated in 1994 (59 FR 5820-5846, also see corrections at 59 FR 9032-9036). The Desert Tortoise (Mojave Population) Recovery Plan (Recovery Plan) (USFWS 1994) was signed on June 28, 1994.

The Mojave population of the desert tortoise includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, southwestern Utah, and in the Sonoran Desert in California.

The desert tortoise is an arid land reptile associated with desert scrub vegetation types, primarily creosote bush (*Larrea tridentata*) flats, washes, and hillside slopes or bajadas. A robust herbaceous component to the shrubs and cacti of the creosote bush vegetation type is an important component of suitable habitat. Within these vegetation types, desert tortoises potentially can survive and reproduce where their basic habitat requirements are met: a sufficient amount and quality of forage species; shelter sites for protection from predators and environmental extremes; suitable substrates for burrowing, nesting, and over-wintering; various plants for shelter; and adequate area for movement, dispersal, and gene flow. Further

information on the range, biology, and ecology of the desert tortoise can be found in the Recovery Plan (USFWS 1994).

Desert tortoises are most active during the spring and early summer when annual plants are most common. Additional activity occurs during warmer fall months and occasionally after summer rain storms. In Arizona, tortoises are considered to be active from approximately March 15 through October 15. Desert tortoises spend the remainder of the year in burrows, escaping the extreme conditions of the desert.

Desert tortoise home range sizes vary with respect to location and year. Females have long-term home ranges that are approximately half that of the average male, which range from 25 to 200 acres (Berry 1986). Over its lifetime, each desert tortoise may require more than 1.5 square miles of habitat and make forays of more than seven miles at a time (Berry 1986). During droughts, tortoises forage over larger areas, increasing the likelihood of injury or mortality through encounters with humans and predators.

Further information on the range, biology, and ecology of the desert tortoise can be found in Berry and Burge (1984), Burge (1978), Burge and Bradley (1976), Bury et al. (1994), Germano et al. (1994), Hovik and Hardenbrook (1989), Karl (1981, 1983a, 1983b), Luckenbach (1982), USFWS (1994), and Weinstein et al. (1987).

The Recovery Plan divides the range of the desert tortoise into six recovery units (RUs) and recommends establishment of 14 Desert Wildlife Management Areas (DWMAs) throughout the RUs. Twelve DWMAs have been designated as Areas of Critical Environmental Concern (ACEC) by the BLM through development or modification of their land use plans in Arizona, Nevada, Utah, and parts of California; designation is still underway in the West Mohave planning area in California. Recovery of the desert tortoise may occur at the RU level, which allows populations within each of the six RUs to be recovered and delisted individually. Similarly, the jeopardy and adverse modification standards may be applied within or across RUs. Thus, proposals to implement the Recovery Plan in portions of a RU cannot be evaluated with regard to jeopardy or adverse modification in a section 7 consultation without an understanding of proposed or existing management prescriptions occurring elsewhere in the RU.

The ***Northeastern Mojave Recovery Unit*** occurs primarily in Nevada, but it also extends into California along the Ivanpah Valley and into extreme southwestern Utah and northwestern Arizona. Vegetation within this unit is characterized by creosote bush scrub, big galleta-scrub steppe, desert needlegrass scrub-steppe, and blackbrush scrub (in higher elevations). Topography is varied, with flats, valleys, alluvial fans, washes, and rocky slopes. Much of the northern portion of the Northeastern Mojave Recovery Unit is characterized as basin and range, with elevations from 2,500 to 12,000 feet. Desert tortoises typically eat summer and winter annuals, cacti, and perennial grasses. Desert tortoises in this recovery unit, the northern portion of which represents the northernmost distribution of the species, are typically found in low densities (about 10 to 20 adults per square mile).

A kernel analysis was conducted in 2003-2004 for the desert tortoise (Tracy et al. 2004) as part of the reassessment of the 1994 Recovery Plan. The kernel analysis revealed several areas in which the kernel estimations for live tortoises and carcasses did not overlap. These regions lacking overlap of live tortoises and carcasses (i.e., carcasses are located but no live tortoises)

represent areas where there were likely recent die-offs or declines in tortoise populations. The pattern of non-overlapping kernels that is of greatest concern is those in which there were large areas where the kernels encompassed carcasses but not live animals. The kernel analysis indicated large areas in the Piute-Eldorado Valley where there were carcasses but no live tortoises. For this entire area in 2001, there were 103 miles of transects walked, and a total of 6 live and 15 dead tortoises were found, resulting in a live encounter rate of 0.06 tortoises per mile of transect for this area. This encounter rate was among the lowest that year for any of the areas sampled in the range of the desert tortoise (Tracy et al. 2004).

Permanent plots were established in the 1970s to monitor tortoise populations, and some of these plots were surveyed through 2002. However, surveys in the Northeastern Mojave RU (Nevada, Utah, and Arizona) and some other RUs detected too few live tortoises to determine a population trend. Line distance sampling was used to monitor populations across the range of the desert tortoise from 2001 through 2005. Tortoise populations have declined significantly in the Western Mojave and appear to be declining in the Eastern Mojave RUs in California (Tracy et al. 2004).

In 2003, the FWS convened the Recovery Plan Assessment Committee (DTRPAC) to scientifically assess the Recovery Plan. The DTRPAC Report (Tracy et al. 2004) produced a number of findings and recommendations that will serve as the basis for revision of the 1994 Recovery Plan. In particular, this report recognizes that threats to the desert tortoise have cumulative, synergistic, and interactive effects, and that tortoise recovery depends on managing multiple threats. Threats facing desert tortoises have been increasing since the 1994 Recovery Plan, including in the Northeastern Mojave RU, and recovery actions have not been fully implemented. The DTRPAC Report also recognizes that tortoise populations may be distributed in metapopulations rather than single, large populations in RUs. In addition to reducing multiple threats within management areas, it is important to protect the corridors among habitat patches. For recovery, tortoise metapopulations require areas of suitable habitat, but these areas may be periodically vacant of tortoises. A revised Recovery Plan is anticipated in 2007.

Although recovery of the tortoise will focus on DWMAs/ACECs, section II.A.6. of the Recovery Plan and section 2(b) of the Act provide for protection and conservation of ecosystems on which federally-listed threatened and endangered species depend, which includes both recovery and non-recovery areas. The Mojave Desert ecosystem, of which the desert tortoise and its habitat are an integral part, consists of a dynamic complex of plant, animal, fungal, and microorganism communities and their associated nonliving environment interacting as an ecological unit (Noss and Cooperrider 1994). Actions that adversely affect components of the Mojave Desert ecosystem may directly or indirectly affect the desert tortoise. The Recovery Plan further states that desert tortoises and habitat outside recovery areas may be important to the recovery of the tortoise. Healthy, isolated tortoise populations outside recovery areas may have a better chance of surviving catastrophic effects such as disease, than large, contiguous populations (USFWS 1994). A description of each recovery unit follows.

Critical Habitat

Twelve areas in Arizona, California, Nevada, and Utah were designated as critical habitat. Critical habitat units (CHUs) were based on recommendations for DWMAs outlined in the draft Recovery Plan (USFWS 1993). These DWMAs are also identified as "desert tortoise areas of

critical environmental concern (ACECs)" by the BLM. Some critical habitat units extend across state lines and are listed below for each state in which they occur. The units are:

- Arizona: Beaver Dam Slope, Gold Butte-Pakoon
- California: Fremont-Kramer, Superior-Cronese, Ord-Rodman, Chuckwalla, Pinto Mountain, Chemehuevi, Ivanpah, Piute-Eldorado
- Nevada: Piute-Eldorado, Mormon Mesa, Gold Butte-Pakoon, Beaver Dam Slope, Coyote Springs
- Utah: Beaver Dam Slope, Upper Virgin River

Because the CHU boundaries were drawn to optimize reserve design, the CHU may contain both "suitable" and "unsuitable" habitat. Suitable habitat can be generally defined as areas that provide the primary constituent elements of desert tortoise critical habitat:

- Sufficient space to support viable populations within each of the six recovery units and provide for movements, dispersal, and gene flow;
- Sufficient quantity and quality of forage species and the proper soil conditions to provide for the growth of such species;
- Suitable substrates for burrowing, nesting, and overwintering;
- Burrows, caliche caves, and other shelter sites;
- Sufficient vegetation for shelter from temperature extremes and predators; and
- Habitat protected from disturbance and human-caused mortality.

At the time of CHU designation, all lands in the CHUs had been impacted by past land management activities to some degree. Appendix D of the Recovery Plan (USFWS 1994) discusses the types of human actions that occurred in desert tortoise habitat before and after the designation of critical habitat that have had effects to the physical habitat components of critical habitat. Designation of most CHUs as DWMAs/ACECs has aided in protection of these areas, particularly by limiting OHV-use and other ground-disturbing activities, and reducing or eliminating wild burros and livestock grazing in many units.

In 2005, much of the Southwest received nearly twice the average annual winter-spring precipitation. This resulted in lush vegetative growth during spring and summer. Large wildfires occurred across southwestern Utah, southern Nevada, and northwestern Arizona during summer 2005. In the Northeastern Mojave RU, wildfires burned 124,782 acres of critical habitat, approximately 11 percent of the critical habitat in this unit. Most vegetation was burned off during these fires, with a loss of forage available for desert tortoises and loss of shrubs to provide shelter from temperature extremes and predators.

Section 7 consultations since 1994 on various human actions have addressed the effects of those actions on the conservation value of the critical habitat units. The most recent major consultation on the tortoise in California was on the California Desert Conservation Area Plan (USFWS 2002), which contained a summary of the status of the species and its critical habitat in California. In Nevada, consultations with three BLM offices (Las Vegas, Ely, and Battle Mountain) addressed most impacts to tortoises and designated critical habitat from land management practices. Desert tortoise management in Arizona is covered primarily by the Mohave Amendment to the Arizona Strip Resource Management Plan for BLM lands in northern Arizona (USFWS 1998), which also considered the effects of BLM actions on the conservation value of critical habitat. The desert tortoise is the primary species covered by the Clark County Multiple Species Habitat Conservation Plan (HCP) in Clark County, Nevada (Regional Environmental Consultants 2000) and critical habitat units in Clark County were evaluated in the analysis for that permit. The Washington County HCP in Utah was completed prior to critical habitat designation; however, consultations for Federal actions in that area consider the effects to critical habitat. Effects to critical habitat areas for the desert tortoise are fully included either by existing section 7 consultations or by the existing HCPs. Conservation actions for the species include protection for individuals and habitat.

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the species and its habitat in the action area to provide a platform to assess the effects of the action now under consultation. The "action area" is all areas to be affected directly or indirectly by the Federal action and not merely the immediate area (i.e., the footprint) involved in the action.

A. STATUS OF THE SPECIES WITHIN THE ACTION AREA

Mesa Verde cactus

The proposed NTP alignment crosses about 26 miles of Mesa Verde cactus range between the Shiprock substation and the San Juan River, within which there are various conditions and qualities of habitat, and areas of non-habitat. Along this length, the action area includes the 250-foot wide ROW, all access roads from the ROW to their intersection with a paved highway, and a zone within 0.25 mile on either side of the proposed line. Based on these dimensions this area is calculated to be 5,440 acres in area. This zone covers an area that may be indirectly affected by the proposed action based primarily on potential increased access to the general area around the ROW by improving the ROW access road that was previously impassible (D. Roth, pers. comm.) and improvements to other roads that access the ROW. Indirect impacts include surface disturbance from OHV-use and the spread of weeds.

Topography is generally flat to gently rolling with small benches, ridges and knolls, except near the eastern end of the line where there is a prominent north-south running ridge (the Hogback) and an associated mesa to the west. A number of ephemeral channels run roughly perpendicular to the line. Soils are mainly clayey, derived from Fruitland or Mancos shale with notable areas

of soils with silty or sandy texture. Along the 26 miles of line within Mesa Verde cactus range, there are several disjunct sections and pockets of Mesa Verde cactus habitat totaling about 17 miles that were classified as excellent (five miles), good (11.5 miles) and moderate (0.5 miles) habitat (EES 2005).

Surveys in 2006 located 1,377 Mesa Verde cacti within a 450-foot survey corridor along the NTP (the 250-foot ROW plus 100 feet on either side). Cacti are roughly separated into two groups. One is west of US 491 and is spread out discontinuously over about seven miles, occurring in areas classified as excellent habitat. The other group occurs on a 3.5-mile stretch of the NTP west of the aforementioned mesa. Habitat in this area was classified as good. Almost two-thirds of the cacti were small, less than 1.5 centimeters (0.6 inch) in diameter, indicating recruitment within the last few years. Surveyors noted that habitat extended outside the survey corridor that most likely support numerous individual Mesa Verde cactus (EES 2006).

Within the survey corridor for the NTP (450 feet by 17 miles) there are about 927 acres of Mesa Verde cactus habitat. This acreage is almost 20 percent of the total acreage (4,723 acres) where Mesa Verde cactus has been documented on the Navajo Nation. There is no reliable estimate of the total acreage of occupied Mesa Verde cactus habitat rangewide or on the Navajo Nation (D. Roth, pers. comm.). The survey corridor is only a portion of the action area, which is calculated to be 5,440 acres. However, although habitat extends outside the survey corridor, we do not know how much of the action area consists of habitat.

More cacti were found in the 2006 NTP survey (1,377) than were found in the 2004 re-survey of all previously known Navajo Nation sites for the Navajo status assessment report (948 cacti). Since the dramatic 2002/2003 decline, Mesa Verde cactus has been experiencing some recovery that may not have begun or been easily detectable in 2004. It appears Mesa Verde cactus is recovering along the NTP based on the small size of the large majority of cacti along the NTP.

Since 2002 when there was no measurable precipitation in the Shiprock area, annual precipitation has varied from 1.27 inches in 2004 to 6.22 inches in 2005. For 2006, total precipitation through November is 2.59 inches. Average annual precipitation for the Shiprock area is 7.08 inches (Western Regional Climate Center 2006). Drought conditions in the Shiprock vicinity are currently rated at "Advisory", which is the first of five levels above "No Drought" (New Mexico State Drought Monitoring Committee 2006).

Desert tortoise

Desert tortoises are present along most of the length of the transmission line route in Nevada. The proposed route parallels an existing 500kV power line through the Eldorado Range and there are numerous existing power lines in the Eldorado Valley. It is estimated that approximately 10 percent of the study corridor is crossed by utility corridors, U.S. Highway 95 (US 95), and numerous primitive roads leading to mining operations. The remaining 90 percent is relatively undisturbed, natural open space (EPG 2006). Nelson Road (SR 165), Laughlin Highway (SR 163) and Nipton Highway (SR 164) have been fenced to exclude desert tortoises in prioritized sections.

The Nevada portion of the proposed ROW crosses numerous plant assemblages and soil substrates associated with desert tortoises. Near the Colorado River, creosote bush/bursage

(*Ambrosia* sp.) are associated with cobble/sand washes. The stretch from the Colorado River to the upper Eldorado Mountain Pass contains cholla-dominated [e.g., teddy bear (*Opuntia bigelovii*) and buckhorn (*O. acanthocarpa*)] overstories in the steep granite rock terrain. In the transition from the Eldorado Mountain Pass area to the valley, there is a small area of creosote bush/blackbrush/Mojave yucca (*Yucca schidigera*) present with large rounded granite boulders near Knob Hill. From the vicinity of Knob Hill through the Eldorado Valley towards the substation, vegetation is generally dominated by the common upland creosote bush/bursage association with a mixture of gravel, cobble, and sand in bisecting washes and exposed caliche layers. In the few miles approaching the Marketplace Substation, the soil substrate becomes dominated by sandy/silty soils, which do not provide good burrowing habitat for desert tortoises (EPG 2006).

US 95 was widened to a 4-lane divided highway between Railroad Pass at the southern end of the Las Vegas Valley to Searchlight, Nevada. Most of US 95 that traverses the Piute-Eldorado CHU has been fenced on both sides with desert tortoise-proof fencing to prevent tortoises from entering the highway. Although culverts and underpasses occur along the fenced sections of US 95, the fencing in combination with the highway and associated traffic serve as a barrier to east-west tortoise movements.

The Piute-Eldorado CHU is contiguous with the Chemehuevi CHU in California, thus contributing a substantial block of habitat managed for desert tortoise conservation. This large, contiguous block of habitat minimizes the effect of fragmentation of tortoise populations in the Northeastern Mojave Recovery Unit as a result of development in the Las Vegas Valley which effectively isolates the northern CHUs from the Piute-Eldorado CHU. The Piute-Eldorado CHU overlaps the Northeastern and Eastern Mojave recovery units, thus contributing towards recovery of tortoise populations in both of these recovery units. For further information on the Piute-Eldorado CHU and other CHUs, refer to the Recovery Plan and its companion document (USFWS 1994).

Desert tortoise surveys were performed in Nevada for this project in 2004, according to the protocols outlined in Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise (USFWS 1992). EPG biologists performed the surveys between July 15 and August 13, 2004. A total of 25 standard linear belt transects of varying lengths were walked by three to four biologists using approximately 30-foot separation between surveyors. Surveys covered the 26 miles of the proposed ROW in Nevada. The transects covered approximately 364 acres of the proposed ROW focused on the centerline. Zone-of-influence transects also were performed throughout the ROW where possible. In the extremely steep terrain of the Eldorado Mountains, EPG biologists were unable to perform surveys due to safety considerations. EPG biologists walked a total of 50 miles of zone-of-influence transects covering approximately 200 acres (EPG 2006).

Tortoise density estimations were made by first calculating the number of live tortoises, Class 1 burrows, and other sign found on the survey and correcting the sign based on the known individual surveyors correction factor. Then, the relative densities (i.e., number of tortoises per square mile) were calculated using BLM standards for Clark County (Berry and Nicholson 1984). Tortoise habitat quality determinations were made on the assessment of soil suitability for burrowing, amount of human impact (e.g., illegal trash dumps, impacts from mining, etc.), and the floral assemblages observed.

Desert tortoise sign was located throughout the proposed ROW except for the first 3 miles west of the Colorado River. Tortoise densities calculated were averaged using both the high- and low-end estimation values, and by averaging the centerline and zone-of-influence survey results. There was no substantial difference between the results of the zone-of-influence survey densities and the on the centerline survey densities.

Suitable habitat for Mojave population desert tortoises is present for approximately 26 miles along the proposed transmission line route in southern Nevada, west of the Colorado River. Desert tortoise habitat on the transmission line route occurs in three land jurisdictions. Approximate mileages are 7.9 miles of private land (Boulder City Conservation Easement, or BCCE), 16.2 miles on BLM lands, and 1.9 miles on NPS land (Lake Mead National Recreation Area). The 16.5 miles of critical habitat are all within the BCCE and BLM land jurisdictions. The best habitat for desert tortoises along this route is in the relatively flat portions of the Eldorado Valley, between the Eldorado Mountains and the Marketplace Substation. This area is approximately 18 miles in length, of which approximately 16.5 miles are within the Piute-Eldorado CHU. Tortoise sign was not present between the Colorado River and the base of the east slope of the Eldorado Mountains. This area contains numerous deep, steep ravines draining to the Colorado River which may be unsuitable terrain for desert tortoises (EPG 2006).

Berry and Nicholson (1984) developed a linear regression model for estimating the relative population densities of desert tortoises in California based on corrected sign, which was corrected for Nevada by the Las Vegas BLM. Berry and Nicholson (1984) identified five relative density categories based on anticipated number of desert tortoises per square mile: very low (0 to 10 tortoises, low (10 to 45 tortoises), moderate (45 to 90 tortoises), high (90 to 140 tortoises), and very high (more than 140 tortoises per square mile). The highest tortoise-relative density identified (moderate) was within a 6-mile section from the northeastern slope of Highland Mountain to a point approximately 2 miles into the Sloan SE USGS quadrangle. The majority of the route exhibited low relative density of tortoises (20 to 38 tortoises per square mile). Tortoise habitat in the Eldorado Mountains was observed to be relatively undisturbed by humans. The 3 to 4 miles of the line both east and west of US 95 was observed to have a high presence of human disturbance (highway factors, illegal dumping, mining roads, etc.).

A weighted average of tortoise density, based on miles of habitat at the varying densities for the entire 26-mile length of occupied habitat, was calculated at 38 desert tortoises per square mile (Table 4).

Table 4. Estimated Mojave Population Desert Tortoise Densities Along Portions of the Nevada Segment of the Proposed Navajo Transmission Line

Portion of Line	Approximate Length (miles)	Estimated Densities (Tortoises/mi^2) Low-High	Estimated Densities (Tortoises/mi^2) Average	Corresponding Relative Densities*
3 miles west of the Colorado River through the Eldorado Mountain Range	5	20-28	24	Low (10-45)
Western slope of the Eldorado Mountain Range across US 95 to the northeastern slopes of Highland Mountain**	9	22-30	26	Low (10-45)
Northeastern slope of Highland Mountain to approximately 2 miles into the Sloan SE USGS quadrangle**	6	58-90	73	Moderate (45-90)
2 miles into the Sloan SE USGS quadrangle to end of line at the Marketplace Substation.	6	25-38	32	Low (10-45)

* Relative densities adapted Berry and Nicholson (1984).
** Sections of line within Piute-Eldorado DWMA.

Critical Habitat

The Piute-Eldorado CHU is the only critical habitat anticipated to be affected by the proposed action. The Piute-Eldorado CHU is the largest expanse of desert tortoise habitat in Nevada. This area also contains the highest concentrations (40-90 adults per square mile) of desert tortoise in Nevada, though population density varies throughout the CHU (Krzysik 2006). Habitat in and around the action area has friable soils and vegetation typical of high quality tortoise habitat. There is very little development, with the exception of the communities of Searchlight and Cal-Nev-Ari, and the Walking Box Ranch.

Current land uses include OHV-use, utility corridors, and non-motorized recreation such as hiking, biking, and horse riding. Old mine adits are present in the westernmost end of the project area. Numerous roads bisect the project area, including roads parallel to the powerline corridor. Feral burros have been, and continue to be removed from Lake Mead National Recreation Area to protect tortoise habitat in the Piute-Eldorado CHU. Livestock grazing has been discontinued

in all areas designated as ACEC on BLM lands, which generally overlap CHU boundaries. Several ROW and mining plans of operations have been approved by the BLM in Piute and Eldorado valleys. Most ROWs were granted for utility transmission including natural gas, electrical, and fiber-optic lines. There is litter along well-traveled roads.

US 95 was widened to a 4-lane divided highway between Railroad Pass at the southern end of the Las Vegas Valley to Searchlight, Nevada. Most of US 95 that traverses the Piute-Eldorado CHU have been fenced on both sides with desert tortoise-proof fencing to prevent tortoises from entering the highway. Although culverts and underpasses occur along the fenced sections of US 95, the fencing in combination with the highway and associated traffic serve as a barrier to east-west tortoise movements.

The Piute-Eldorado CHU is contiguous with the Chemehuevi CHU in California, thus contributing a substantial block of habitat managed for desert tortoise conservation. This large, contiguous block of habitat minimizes the effect of fragmentation of tortoise populations in the Northeastern Mojave Recovery Unit as a result of development in the Las Vegas Valley which effectively isolates the northern CHUs from the Piute-Eldorado CHU. The Piute-Eldorado CHU overlaps the Northeastern and Eastern Mojave recovery units, thus contributing towards recovery of tortoise populations in both of these recovery units. For further information on the Piute-Eldorado CHU and other CHUs, refer to the Recovery Plan and its companion document (USFWS 1994).

The 85,000-acre BCCE land is owned by Boulder City but managed under a 50-year *Conservation Easement Grant* established with Clark County in 1995 for the conservation of desert tortoises and other desert wildlife. Clark County intends to develop a management plan for the easement within the next few years. The establishment of the easement was part of the County's mitigation established under their Short-Term Habitat Conservation Plan. The site is bordered on the west by US 95 and on the east by the Lake Mead National Recreation Area.

B. FACTORS AFFECTING SPECIES ENVIRONMENT WITHIN THE ACTION AREA

Mesa Verde cactus

The action area is largely undeveloped with exception of an existing WAPA 230kV transmission line that the proposed project parallels for its entire length through Mesa Verde cactus habitat. The WAPA line was built in the 1960s. The access road to the WAPA ROW would also be used to access the NTP ROW. A second powerline parallels the proposed NTP for 12 miles from the Shiprock substation. There are also at least one powerline, two buried pipelines, one improved light-duty road, and 18 unimproved (e.g., two track) roads that intersect the proposed alignment. The density of roads intersecting the ROW is about one per mile. Associated with these dirt roads is an unknown amount of traffic and associated activities such as OHV-use and trash dumping that have disturbed cactus habitat (EES 2006). Grazing occurs in the action area at low stocking levels due to the low density of forage.

From February to April of 2006, WAPA bladed their access road along its length, including about 15.5 miles through Mesa Verde cactus habitat and the entire length of the WAPA line through the Malpais Conservation Area (about 4.5 miles). Because the access road was originally unimproved (i.e., a two-track) and had not been used regularly for many years, it

probably contained Mesa Verde cactus habitat and may have supported cacti. Based on a width of 12 feet, about 22 acres of what was at least moderate habitat was bladed. It is unknown if any cacti were lost. As a result of this incident, WAPA agreed to install gates at the intersection of the ROW and US 491 and at other strategic locations westward for the purpose of managing their future access to the ROW. These gates should also effectively limit access of unauthorized traffic.

Desert tortoise

Since the Mojave population of the desert tortoise was first listed under the Act in 1989, three regional-level HCPs have been implemented for development of desert tortoise habitat in Clark County, Nevada. About 89 percent of Clark County consisted of public lands administered by the Federal government, thereby providing little opportunity for mitigation for the loss of desert tortoise habitat under an HCP on non-Federal lands. Alternatively, funds are collected under HCPs and spent to implement conservation and recovery actions on Federal lands as mitigation for impacts that occur on non-Federal lands. BLM-managed lands are included in these areas where mitigation funds are used to promote recovery of the desert tortoise.

1. On May 23, 1991, the FWS issued a biological opinion on the issuance of incidental take permit PRT-756260 (File No. 1-5-91-FW-40) under section 10(a)(1)(B) of the Act. The FWS concluded that incidental take of 3,710 desert tortoises on up to 22,352 acres of habitat within the Las Vegas Valley and Boulder City in Clark County, Nevada, was not likely to jeopardize the continued existence of the desert tortoise. The permit application was accompanied by the *Short-Term Habitat Conservation Plan for the Desert Tortoise in the Las Vegas Valley, Clark County, Nevada* (Regional Environmental Consultants [RECON] 1991) (Short-term HCP) and an implementation agreement that identified specific measures to minimize and mitigate the effects of the action on desert tortoises.

   On July 29, 1994, the FWS issued a non-jeopardy biological opinion on the issuance of an amendment to incidental take permit PRT-756260 (File No. 1-5-94-FW-237) to extend the expiration date of the existing permit by 1 year (to July 31, 1995) and include an additional disturbance of 8,000 acres of desert tortoise habitat within the existing permit area. The amendment did not authorize an increase in the number of desert tortoises allowed to be taken under the existing permit. Additional measures to minimize and mitigate the effects of the amendment were also identified. Approximately 1,300 desert tortoises were taken under the authority of PRT-756260, as amended. In addition, during the Short-term HCP, as amended, approximately 541,000 acres of desert tortoise habitat have been conserved in Clark County on lands administered by BLM and NPS.

2. On July 11, 1995, the FWS issued an incidental take permit (PRT-801045) to Clark County, Nevada, including cities within the county and the Nevada Department of Transportation (NDOT), under the authority of section 10(a)(1)(B) of the Act. The permit became effective August 1, 1995, and allowed the "incidental take" of desert tortoises for a period of 30 years on 111,000 acres of non-Federal land in Clark County, and approximately 2,900 acres associated with NDOT activities in Clark, Lincoln, Esmeralda, Mineral, and Nye counties, Nevada. The Clark County Desert Conservation Plan (DCP) served as the permittees' HCP and detailed their proposed measures to minimize, monitor, and mitigate the effects of the proposed take on the desert tortoise (RECON 1995). The permitees and NDOT imposed and paid a fee of $550 per acre of habitat disturbance to fund these measures. The permittees expended about $1.65 million per year to minimize and mitigate the potential loss of desert tortoise habitat. The majority of these funds were used to implement minimization and mitigation measures, such as increased law enforcement; construction of highway barriers; road designation, signing, closure, and rehabilitation; and tortoise inventory and monitoring within the lands managed for tortoise recovery (e.g., ACECs or DWMAs). The benefit to the species, as provided by the DCP, substantially minimized and mitigated those effects that occurred through development within the permit area and aided in recovery of the desert tortoise.

3. On November 22, 2000, the FWS issued an incidental take permit (TE-034927) to Clark County, Nevada, including cities within the county and NDOT which supersedes the DCP permit. In the biological/conference opinion (File No. 1-5-00-FW-575), the FWS determined that issuance of the incidental take permit to Clark County would not jeopardize the listed desert tortoise or southwestern willow flycatcher (*Empidonax traillii extimus*), or any of the 76 species that are not listed or not proposed for listing under the Act that are covered under the incidental take permit. Under the special terms and conditions of the permit, take of avian species, with the exception of Peregrine falcon (*Falco peregrinus anatum*) and phainopepla (*Phainopepla nitens*), would not be authorized until acquisition of private lands in desert riparian habitats in southern Nevada has occurred. The incidental take permit allows incidental take of covered species for a period of 30 years on 145,000 acres of non-Federal land in Clark County, and within NDOT ROW, south of the 38th parallel in Nevada. The Clark County Multiple Species Habitat Conservation Plan and Environmental Impact Statement (MSHCP) (RECON 2000), serves as the permittees' HCP and details their proposed measures to minimize, mitigate, and monitor the effects of covered activities on the 78 species.

As partial mitigation under the DCP, carried forward in the MSHCP, the County purchased the BCCE from the City of Boulder City in 1994. The BCCE is for 50 years and will be retained in a natural condition with the purpose for recovery of the desert tortoise and conservation of other species in the area. Certain uses shall be prohibited within the BCCE including motor vehicle activity off designated roads, livestock grazing, and any activity that is inconsistent with the purposes of the BCCE. Much of the BCCE is also designated desert tortoise critical habitat. Within the boundary of the BCCE, Boulder City reserved the Solar Energy Zone for energy development projects in addition to adjacent energy generation facilities described previously.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action that will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Mesa Verde cactus

Direct Effects

The proposed action may result in the loss of Mesa Verde cacti within the ROW. Based on implementation of the conservation measures, the number of cacti lost should be very small. The placement of towers, spur roads, and wire-puling and wire-splicing sites will be based on the pre-engineering and pre-construction surveys with the objective of avoidance of cacti and minimizing disturbance to habitat. All Mesa Verde cacti near areas of activities will be clearly marked and protected to avoid effects. However, because of the small size and cryptic appearance of the Mesa Verde cactus, surveys almost certainly are incapable of locating all individual plants (EPG 2006). In addition, it may not be possible to locate structures and facilities to avoid all cacti in all situations.

Based on implementation of the conservation measures and the location of towers, access and spur roads, and ancillary construction facilities, we anticipate adverse effects to be no more than 8 individual cacti. This number is based on the very close proximity of the access road and one tower to 8 known cacti occurrences and the likelihood that effects to these cacti may be unavoidable. Adverse effects include disturbance due to fugitive dust, water from dust abatement activities, physical damage to cacti, and transplantation. If, during the course of the construction, more than 8 currently documented cacti are damaged or transplanted, this would constitute new information about the extent of the effects of the action not considered in this biological opinion and may necessitate reinitiation of consultation per the REINITIATION NOTICE. If more than 8 currently documented cacti are damaged or destroyed, contact us to discuss the need for reinitiation. We also anticipate that an unknown, but limited, number of plants that may be found in future surveys may also be adversely affected. It is our opinion that this number will be very small based on the relocation of towers and spur roads out of areas where cacti currently occur and the elimination of a part of the secondary access road between proposed towers 17/2 and 17/3 as documented in February 15, 2007 NAVAJO TRANSMISSION PROJECT ENGINEERING MODIFICATIONS (EPG 2007).

The proposed action may also result in disturbance to seeds, reducing their viability or resulting in their loss. Because of recent large losses of individual plants and populations from predation and drought, the delineation of potential seed bank areas for the species cannot currently be determined. Therefore, any disturbance in suitable habitat may result in effects on seeds. The total area of impact related to tower site construction, including spur roads, would be between 60 and 74 acres. Depending on the number and type of towers constructed, foundations would

permanently occupy between 0.2 and 0.8 acre within the area of Mesa Verde cactus habitat, which would result in the loss of any seeds in that area.

Indirect Effects

The proposed action would result in the loss or modification of habitat from construction activities. Habitat would be modified through disturbance to soil structure and compaction of soil, which may affect recruitment of new plants. Soil disturbance can also increase erosion, which would result in the loss of habitat and may affect individual cacti and habitat down gradient. The total area of impact related to tower site construction, including spur roads, would be between 60 and 74 acres. Depending on the number and type of towers constructed, foundations would permanently occupy between 0.2 and 0.8 acre within the area of Mesa Verde cactus habitat.

Ground-disturbing activities also can increase the potential for the invasion and spread of noxious weed species. Noxious weeds can out-compete native plant species including Mesa Verde cactus and alter the fire regime, resulting in a fire frequency and intensity to which native species are not adapted. This impact should be minimized through implementation of the Weed Management Plan.

Improvements to access roads to and within the ROW and creation of spur roads used to access the tower sites could facilitate long-term access to the action area by non-project related traffic. Currently, the action area is relatively inaccessible due to the poor condition of the unimproved roads in the area. In some cases ephemeral drainages have made these roads impassible. In areas along the proposed ROW where access is not restricted, there is evidence of OHV traffic and trash dumping. These activities can result in the destruction of cacti, the modification or indefinite loss of habitat, and the spread of noxious weeds. Because activities associated with increased access are unregulated and because they would occur indefinitely, the effects associated with access to habitat are potentially far greater than the construction and maintenance phases of the transmission line project.

The NTP would pass though the proposed Malpais Conservation Area, which has a moderate level of anthropogenic disturbance, such as vehicle tracks. The viability rating of this area was reduced from good to fair because of the potential for further anthropogenic degradation of habitat (Ladyman 2004). An increase in access to this area will further reduce its viability.

The potential for impacts to Mesa Verde cactus resulting from unmanaged access to the action area west of US 491, and including the conservation area, should be significantly reduced by the gates recently installed along the joint ROW access road by WAPA.

Desert tortoise

Direct effects encompass the immediate, often obvious effect of the proposed action on the desert tortoise or its habitat. Indirect effects are caused by or will result from the proposed action and are later in time, but still reasonably certain to occur. In contrast to direct effects, indirect effects can often be more subtle, and may affect desert tortoise populations and habitat quality over an extended period of time, long after project activities have been completed. Indirect effects are of particular concern for long-lived species such as the desert tortoise, because project-related effects may not become evident in individuals or populations until years later.

The proposed project would result in total disturbance of 115.9 acres of desert tortoise habitat. Of this, 51 acres of project lands are within designated desert tortoise critical habitat on BLM lands and 17.6 acres are within critical habitat on non-Federal lands; the remaining lands to be disturbed outside critical habitat consist of 24.8 acres on BLM and NPS lands and 22.5 acres on non-Federal land.

Disturbance would include construction of new access roads and removal of vegetation, which provides food and cover for tortoises. Removal of native vegetation can encourage the infiltration and proliferation of invasive alien plant species, which can alter the native plant community and adversely affect the plant diversity and quantity of forage on which tortoises depend. Recurrent fires due to presence of these alien annual plant species can exacerbate this problem. Measures proposed by BLM, NPS and DPA to flag work area boundaries, prohibit cross-country travel, and locate work areas in previously disturbed areas should minimize these effects.

Desert tortoises may be killed or injured by project vehicles and equipment on the ROW or access roads which is the greatest threat to desert tortoises in the project area. During the construction period there would be heavy traffic, including small and large trucks, bulldozers, and other construction vehicles, on the ROW and access roads. Equipment used for stringing or tensioning wires could crush tortoises or collapse dens, both occupied and unoccupied, if they are not found during clearance surveys. Project vehicles or equipment that stray from designated areas may crush desert tortoises above ground or in their burrows or damage habitat outside the ROW. Any tortoise on the ROW or access roads during construction hours would be highly vulnerable. This could be aggravated by the presence of water not normally available to tortoises, which may be present within the project area for dust control. Tortoises that enter the project area during project activities may need to be captured and moved out of harm's way; as a result, tortoises may be adversely affected if handled improperly. Measures proposed by BLM, NPS and DPA to provide an authorized biologist onsite, present a worker education program, implement a speed limit and post caution signs, and flag work area boundaries, should minimize these effects.

The transmission line would create new access to desert tortoise habitat by humans using OHVs and all-terrain vehicles. Drivers of these vehicles are likely to use any available roadway, and they frequently travel at high rates of speed, creating a serious hazard for any tortoises in the vicinity. Currently, vehicular access occurs along existing transmission lines in tortoise habitat for the full length of the proposed route in Nevada, except for the last 2 miles of the route as it approaches the Marketplace Substation, which is heavily used by recreationists. Recreationists could harass or illegally collect tortoises, crush or collapse their burrows, compact soils, and

facilitate the spread of weeds, including grasses that can fuel wildfires. Removal or trampling of vegetation could increase predation by reducing cover for tortoises. The measures proposed by the BLM, NPA and DPA to restrict public access to the ROW should minimize these effects.

Project personnel could illegally collect tortoises for pets, removing them from the wild population. Tortoises could wander into the construction work area and take refuge underneath project vehicles and equipment, potentially to be killed or injured when the vehicle or equipment is moved. Tortoises could also suffer injury or death if they fall into uncovered excavations. Tortoises that are physically moved out of project areas to prevent mortality or injury could be inadvertently harmed if not handled properly. Urine and large amounts of urates are frequently voided during handling and may represent a severe water loss, particularly to juveniles (Luckenbach 1982). Overheating can occur if tortoises are not placed in the shade when ambient temperatures equal or exceed temperature maximums for the species (Desert Tortoise Council 1994, revised 1999). Measures proposed by the BLM, NPS and DPA to provide an authorized biologist onsite, present a worker education program, inspect excavations, and provide escape ramps as needed, should minimize these effects.

Construction and maintenance actions associated with the proposed project may provide food in the form of trash and litter; or water, which attracts important tortoise predators such as the common raven and the coyote (*Canis latrans*) (BLM 1990, Boarman and Berry 1995). The majority of raven predation occurs during the spring and is most likely accomplished by breeding birds (Boarman 2002). Ravens use transmission towers as well as other anthropogenic structures as nest sites that threaten small tortoises in the area surrounding the nest site (Boarman 2002). Kristan and Boarman (2003) found in their study conducted each spring during years 1996-2000, that 27 percent of raven nests occurred on utility poles. During the raven breeding season, most foraging is probably done near the nest (Sherman 1993) and most food is likely brought back to or near the nest. Natural predation in undisturbed, healthy ecosystems is generally not an issue of concern. However, predation rates may be altered when natural habitats are disturbed or modified. Common raven populations in some areas of the Mojave Desert have increased 1,500 percent from 1968 to 1988 in response to expanding human use of the desert (Boarman 1992). Since ravens were scarce in this area prior to 1940, the current level of raven predation on juvenile desert tortoises is considered to be an unnatural occurrence (BLM 1990). The BLM, NPS and DPA proposal to implement litter control and raven monitoring programs should minimize predation effects on desert tortoise.

If fuel or other hazardous materials are spilled in desert tortoise habitat during construction activities, desert tortoises and their habitat may be adversely affected. The BLM, NPS and DPA proposal to require such spills to be cleaned up immediately and contaminated spoils removed from the site should minimize the potential effects on the desert tortoise and its habitat.

Critical Habitat

This biological opinion does not rely on the regulatory definition of "destruction or adverse modification" of critical habitat at 50 CFR 402.2. Instead, we have relied upon the statutory provisions of the Act to complete the following analysis with respect to critical habitat.

We anticipate that the proposed project will disturb up to 51 acres of desert tortoise critical habitat on BLM lands within the Piute Eldorado CHU and 17.6 acres of critical habitat on non-

Federal lands within the same critical habitat unit. Primary constituent elements of critical habitat would be affected by the proposed project to a minor degree; however, most effects would be short-term and are not anticipated to result in long-term harm to desert tortoises. The ROW occurs in a designated utility corridor and will not result in a new pathway into desert tortoise habitat. Sufficient space would likely continue to persist which would provide for movement, dispersal, and gene flow. Desert tortoises would continue to move across the project area upon completion of the project. Removal of native vegetation may facilitate establishment of alien plant species that may be less nutritious for the desert tortoise (Oftedal 2003). The soil would be removed by blading and equipment operations to install transmission towers and associated wires, concrete batch plants, and access. If topsoil is removed, stockpiled, and replaced on disturbed areas, these effects would likely be relatively short-term. A relatively small amount of vegetation that serves as shelter and substrates suitable for burrowing, nesting, and overwintering would be affected by the project. Desert tortoise burrows within the ROW would be vulnerable and may be destroyed as a result of project activities.

Habitat impacts may be long-term if restoration is not successful or if alien plant species become established and displace native plants necessary to the tortoise. If a native annual and perennial plant composition returns to the ROW that is similar to that currently located along the alignment, the effects on tortoise habitat would be of shorter duration.

Considering the low-level and short-term nature of habitat impacts that may result from the proposed action, the FWS does not anticipate that the function of the primary constituent elements of critical habitat within the affected Piute Eldorado CHU would be adversely affected to the point they no longer serve their role for conservation of the desert tortoise as identified in the Recovery Plan.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Mesa Verde cactus

The amount of non-federal future development within the action area that may occur is unknown. Based on past development patterns, development is unlikely in the action area and far more likely in the community of Shiprock. The outskirts of Shiprock are about three miles south of where the NTP would cross US 491. It is conceivable that as Shiprock continues to grow, development associated with Shiprock will occur in the action area. However, most development on the Navajo Nation typically involves a Federal action, so effects to Mesa Verde cactus would be subject to additional section 7 consultation.

Desert tortoise

Clark County, Nevada is one of the fastest growing counties in the United States. The population has more than doubled between 1990 and 2003, increasing from 770,000 to 1.62 million people (BLM 2004). As the human population continues to grow in Clark County and

surrounding areas, energy, water, and recreational needs of the residents and visitors to the area are anticipated to increase. Development of additional future energy and water production facilities may occur on non-Federal lands, but most likely will require ROWs across Federal lands. Effects to the desert tortoise from development on non-Federal lands that does not require authorization or funding by a Federal entity are anticipated to fall under the purview of the MSHCP and associated incidental take permit.

CONCLUSION

Mesa Verde cactus

After reviewing the current status of Mesa Verde cactus, the environmental baseline for the action area, the effects of the proposed NTP and the cumulative effects, it is our biological opinion that the NTP, as proposed, is not likely to jeopardize the continued existence of the Mesa Verde cactus.

We based this conclusion on the following:

- Mesa Verde cactus is recovering from the significant rangewide decline of 2002-2003. Infrequent episodic recruitment and mortality events are apparently natural for Mesa Verde cactus. However in this case, an unusually severe drought appeared to exacerbate this decline. Information collected at monitoring plots indicate Mesa Verde cactus is recovering rangewide from this decline at a modest rate. Recovery is expected to continue under the current climatic conditions.

- Mesa Verde cactus has been affected within the action area by past activities including construction and maintenance of pipelines, transmission lines, and roads. Currently, there is evidence of impacts on Mesa Verde cactus from OHV-use and trash dumping, which is readily apparent near US 491. These activities and their related effects have occurred at a relatively low density.

- Direct effects from the action, across 17 miles of habitat, would be minimized through application of conservation measures that are part of the project description. Indirect effects, specifically disturbance from OHV traffic and the spread of weeds resulting from the increase in access to the action area, are potentially more significant than direct effects. However, the installation of gates along the ROW west of US 491 by WAPA in 2006 should effectively limit access along both ROWs. The effects of the action should not result in significant changes to population numbers or the habitat of Mesa Verde cactus.

- No cumulative effects are apparent.

Desert Tortoise

After reviewing the current status of the desert tortoise, the environmental baseline for the action area, the effects of the proposed approvals and ROW for the DPA energy project and the cumulative effects, it is the FWS's biological opinion that the project, as proposed and analyzed, is not likely to jeopardize the continued existence of the desert tortoise.

Critical habitat for the desert tortoise has been designated in portions of the Piute and Eldorado valleys, Mormon Mesa, Gold Butte, and Beaver Dam Slope areas of Nevada. The proposed project would impact 68.7 acres of critical habitat in Eldorado Valley. It is FWS's opinion that the proposed project is not likely to result in adverse modification of designated critical habitat for the desert tortoise. The project will not diminish the capability of the area to serve its role for recovery by continuing to provide the primary constituent elements of critical habitat.

This conclusion is based on:

- The proposed project will not result in a level of take of desert tortoise that would significantly affect the rangewide number, distribution, or reproduction of the species. Tortoises that are taken as a result of the project are anticipated to remain in the wild with no long-term effects except for up to two that may be killed or injured.

- Measures have been proposed by BLM, NPS and DPA to substantially minimize the effects of the proposed action on the desert tortoise and its critical habitat.

- Designated critical habitat will be affected by the proposed project but not to the extent that the critical habitat unit no longer serves its role for recovery of the desert tortoise.

The conclusions of this biological opinion are based on full implementation of the project as described in the DESCRIPTION OF THE PROPOSED ACTION section of this document, including any Conservation Measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The terms and conditions may include: (1) modifying the measures proposed by the action agencies and DPA; or (2) specifying additional measures considered necessary by the FWS. Where these terms and conditions vary from or contradict the minimization measures proposed under the DESCRIPTION OF THE PROPOSED ACTION, specifications in these terms and conditions shall apply. The measures described below are non-discretionary, and must be undertaken by the BLM and NPS so that they become binding conditions of any grant or permit issued to the DPA, as appropriate, for the exemption in section 7(o)(2) to apply. The BLM and NPS have a

continuing duty to regulate the activity covered by this incidental take statement. If the BLM or NPS (1) fail to assume and implement the terms and conditions or (2) fail to require the DPA to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the BLM and NPS must report the progress of the action and its impact on the species to the FWS as specified in the incidental take statement. [50 CFR §402.14(i)(3)].

The FWS' evaluation of the effects of the proposed actions includes consideration of the measures developed by BLM, NPS and DPA as stated in the DESCRIPTION OF THE PROPOSED ACTION section of this biological opinion, to minimize the adverse effects of the proposed action on the desert tortoise. Any subsequent changes in the minimization measures proposed by BLM, NPS and DPA may constitute a modification of the proposed action and may warrant reinitiation of formal consultation, as specified at 50 CFR § 402.16. These reasonable and prudent measures are intended, where necessary, to clarify or supplement the protective conservation measures that were proposed by BLM, NPS and DPA as part of the proposed action.

The FWS does not issue incidental take for adverse affects to designated critical habitat. The implementing regulations regarding incidental take (50 C.F.R. §402.14) apply to individuals of a listed species, not designated critical habitat.

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of federally listed endangered plants from areas under Federal jurisdiction, or for any act that would remove, cut, dig up, or damage or destroy any such species on any other area in knowing violation of any regulation of any State or in the course of any violation of a State criminal trespass law.

AMOUNT OR EXTENT OF TAKE

Based on the analysis of effects provided above, measures proposed by BLM, NPS and DPA, and anticipated project duration, the FWS anticipates that the following take of desert tortoise could occur as a result of the proposed action:

1. We determined that no more than two desert tortoises could be killed or injured as a result of the proposed project. Should a desert tortoise be killed or injured in association with the proposed action, all activity in the vicinity of the incident shall cease and the project proponent shall immediately contact the BLM or NPS, and FWS's Southern Nevada Ecological Services Office (SNESFO).

2. All desert tortoises found in harm's way in work areas may be captured and moved. We estimate that up to 89 desert tortoises could be taken (other than killed or injured) as a result of project activities. If more than 89 desert tortoises are captured and moved then contact the SNESFO to discuss revising the conservation measures or the need to re-initiate consultation.

3. No more than one desert tortoise nest with eggs could be disturbed or destroyed during project activities.

4. An unknown number of desert tortoises could be preyed upon by ravens or other subsidized desert tortoise predators drawn to trash in the project area or nest on transmission towers.

EFFECT OF THE TAKE

In the biological opinion, the FWS determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

We believe that the following reasonable and prudent measures are necessary and appropriate to minimize take of desert tortoise:

1. The BLM and NPS, as appropriate, shall implement measures to minimize mortality or injury of desert tortoise and damage to desert tortoise eggs due to construction and maintenance activities, capture, and handling.

2. The BLM and NPS, as appropriate, shall implement measures to minimize predation on tortoises by ravens or other desert tortoise predators attracted to the project area.

3. The BLM and NPS as appropriate, shall implement measures to minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of weeds as a result of construction and maintenance activities.

4. The BLM and NPS, as appropriate, shall implement measures to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this opinion.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, BLM and NPS must ensure full compliance with the following terms and conditions, which implement the reasonable and prudent measures described above, and outline required reporting/monitoring requirements. These terms and conditions are non-discretionary.

1. To implement Reasonable and Prudent Measure Number 1, BLM and NPS shall ensure implementation of the following measures to minimize mortality and injury of desert tortoise, and damage to desert tortoise eggs due to construction and maintenance activities, capture, and handling:

    a. BLM and NPS shall ensure that a qualified/authorized desert tortoise biologist is on-site during construction activities. In accordance with *Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise* (USFWS 1992), an authorized desert tortoise biologist

should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum of 60 days field experience. All tortoise biologists shall comply with the FWS-approved handling protocol (Desert Tortoise Council 1994, revised 1999). In addition, the biologist shall have the ability to recognize all forms of tortoise sign, shall have the ability to recognize and accurately record survey results, and must be familiar with the terms and conditions of this biological opinion. All tortoise biologists shall complete the Qualifications Form (Attachment B) and submit it to the FWS for review and final approval as appropriate. Allow 30 days for FWS review and response.

b. Project activities that may endanger a desert tortoise shall cease until the desert tortoise moves out of harm's way or is moved out of harm's way by an authorized desert tortoise biologist.

c. Desert tortoises shall be treated in a manner to ensure that they do not overheat, exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises shall be kept shaded at all times until it is safe to release them. No desert tortoise shall be captured, moved, transported, released, or purposefully caused to leave its burrow for whatever reason when the ambient air temperature is above 95°F (35°C). Ambient air temperature shall be measured in the shade, protected from wind, at a height of 2 inches (5 centimeters) above the ground surface. No desert tortoise shall be captured if the ambient air temperature is anticipated to exceed 95°F before handling and relocation can be completed. If the ambient air temperature exceeds 95°F during handling or processing, desert tortoises shall be kept shaded in an environment that does not exceed 95°F, and the animals shall not be released until ambient air temperature declines to below 95°F (35°C).

d. Project personnel shall exercise caution when commuting to the project area and obey speed limits to minimize any chance for the inadvertent injury or mortality of species encountered on roads leading to and from the project site. Onsite personnel shall exercise caution and car pool to the greatest extent possible. All desert tortoise observations, including mortalities, shall be reported directly to an authorized desert tortoise biologist or the field contact representative.

e. An authorized biologist shall monitor areas treated for dust-control by application of water to ensure that tortoise attracted to watered areas are not killed or injured.

2. To implement Reasonable and Prudent Measure Number 2, BLM and NPS shall ensure implementation of the following measures to minimize predation on tortoises by ravens or other desert tortoise predators attracted to the project area:

   a. Trash and food items shall be promptly disposed in predator-proof containers with resealing lids. Trash containers will be emptied daily, and waste will be removed from the study area and disposed in an approved off-site landfill. Construction waste also will be removed from the site each day and properly disposed.

   b. DPA shall develop and implement a raven nest monitoring/removal program, in compliance with the Migratory Bird Treaty Act. A draft program shall be submitted to the FWS, BLM, and NPS for review within 3 months from the date of this biological opinion, and a final program shall be developed and implemented within 6 months. All observations of nesting ravens on project towers shall be reported to the FWS. Areas underneath raven nests will be inspected for the presence of tortoise carcasses and included in the report.

3. To implement Reasonable and Prudent Measure Number 3, BLM and NPS shall ensure implementation of the following measures to minimize loss and long-term degradation and fragmentation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of weeds as a result of construction and maintenance activities:

   a. Prior to construction, cacti and yucca to be impacted by project activities shall be excavated and transplanted as part of the restoration in accordance with BLM standards.

   b. DPA shall prepare and implement a weed-control plan and habitat restoration plan approved by the NPS and BLM for the project <u>prior</u> to initiation of surface-disturbing activities. As part of the restoration plan, the top 6 inches of soil shall be removed from areas to be bladed or otherwise affected by construction (e.g., areas where soil will be stockpiled), stockpiled, and replaced as part of the restoration process. Heavy equipment shall be cleaned of soil with high-pressure air or water prior to arrival at the project area to minimize the potential introduction of alien plant seeds. All imported materials will be certified weed-free. Blading shall be kept to a minimum.

   c. The proposed project would disturb a total of approximately 115.9 acres of desert tortoise habitat. Of this, 51 acres of project lands are within designated desert tortoise critical habitat on BLM lands and 17.6 acres are within critical habitat on non-Federal lands; the remaining lands to be disturbed outside critical habitat consist of 24.8 acres on BLM and NPS lands and 22.5 acres on non-Federal land.

Compensation rates for disturbance to desert tortoise habitat in the project area were derived from the guidelines provided in Compensation for the Desert Tortoise (Hastey et al. 1991). For areas of critical habitat on BLM land (there are no areas of critical habitat on NPS land within the project area), the compensation rate was determined to consist of a multiplier of 3X the current base rate (currently $723 per acre) for quality of habitat (Category 1 = critical habitat), plus growth-inducing effects of the project (0.5X), plus effects of the project adjacent to the study area (0.5X). These multipliers are additive and thus result in a rate of $2,892 per acre (4 X $723). For areas of tortoise habitat on BLM and NPS land not in critical habitat, the rate is a factor of 1, or $723 per acre. These fees will be indexed for inflation and will be adjusted accordingly for the year the ROW are approved and fees paid.

Fees for disturbance of Federal lands are paid into the Clark County section 7 account. The next rate adjustment will occur on March 1, 2008. **If paid prior to March 1, 2008, the total section 7 fees due for disturbance of Federal lands would be $165,422**. The section 7 payments shall be accompanied by the attached Section 7 Fee Payment Form (Attachment C), and completed by the payee. The project proponent or applicant may receive credit for payment of such fees and deduct such costs from desert tortoise impact fees charged by local government entities. Payment shall be by certified check or money order payable to Clark County and delivered to:

Clark County Desert Conservation Program
c/o Dept. of Air Quality and Environmental Management
Clark County Government Center
500 S. Grand Central Parkway, first floor (front counter)
Las Vegas, Nevada 89106
(702) 455-5821

An additional 17.6 acres of critical tortoise habitat on private land and 22.5 acres of non-critical tortoise habitat would be compensated at $550 per acre, for **a total compensation of $22,055 for disturbance of non-Federal lands**. BLM and NPS shall ensure that DPA provides these funds to the Clark County Multiple Species Habitat Conservation Plan which is a separate account from the section 7 account, but paid at the same location stated above.

d. Any new roads shall be rehabilitated and/or designated and posted as closed. Alternatively, other closed roads in the area could be rehabilitated as approved by the FWS, BLM and NPS.

4. To implement Reasonable and Prudent Measure Number 4, BLM and NPS shall ensure implementation of the following measures to comply with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion:

a. BLM and NPS shall designate a field contact representative. The representative will be responsible for overseeing compliance with protective stipulations for the desert tortoise and coordinating with the FWS. The representative shall have authority to halt activities or construction equipment that may be in violation of the stipulations.

b. The on-site biologist shall record each observation of desert tortoise handled. Information will include the following: Location, date and time of observation; whether tortoise was handled, general health and whether it voided its bladder; location tortoise was moved from and location moved to; and unique physical characteristics of each tortoise. A final report will be submitted to the FWS's SNESFO in Las Vegas, Nevada, within 90 days of completion of the project.

The FWS believes that no more than two desert tortoises will be accidentally injured or killed and we estimate that up to 89 tortoises may be taken by harassment or capture and moved out of harm's way during construction of the NTP; no more than one desert tortoise nest with eggs will be affected by the project; and an unknown number of desert tortoises may be taken in the form of indirect mortality through predation by ravens drawn to the action area.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take or loss of habitat identified is exceeded, such incidental take and habitat loss represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. BLM or NPS must immediately provide an explanation of the causes of the taking and review with the FWS the need for possible modification of the reasonable and prudent measures.

Reporting Requirements

Upon locating a dead or injured desert tortoise within the action area, notification must be made to the Ecological Services Division of the FWS, SNESFO in Las Vegas, Nevada at (702) 515-5230. Care should be taken in handling sick or injured desert tortoises to ensure effective treatment and in handling of dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of injured desert tortoises or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by the FWS to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed. All deaths, injuries, and illnesses of desert tortoises, whether associated with project activities or not, will be summarized in an annual report.

The following actions should be taken for injured or dead tortoises if directed by the FWS:

1. Injured desert tortoises shall be delivered to any qualified veterinarian for appropriate treatment or disposal.

2. Dead desert tortoises suitable for preparation as museum specimens shall be frozen immediately and provided to an institution holding appropriate Federal and State permits per their instructions.

3. Should no institutions want the desert tortoises, or if it is determined that they are too damaged (crushed, spoiled, etc.) for museum specimen preparation, then they may be buried away from the project area or cremated, upon FWS authorization.

4. BLM or DPA shall bear the cost of any required treatment of injured desert tortoises, euthanasia of sick desert tortoises, or cremation of dead desert tortoises.

5. Should sick or injured desert tortoises be treated by a veterinarian and survive, they may be transferred as directed by the FWS.

Review requirement: The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize incidental take that might otherwise result from the proposed action. If, during the course of the action, the level of incidental take is exceeded, such incidental take would represent new information requiring review of the reasonable and prudent measures provided. The BLM or NPS must immediately provide an explanation of the causes of the taking and review with the SNESFO the need for possible modification of the reasonable and prudent measures.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. We recommend the BIA work with the DPA to monitor OHV-use within the action area to determine the patterns and intensity of indirect effects to Mesa Verde cactus and its habitat from increased access.

2. We recommend the BIA participate in the development, approval and management of the Mesa Verde Cactus Malpais Conservation Area.

3. We recommend construction activities within desert tortoise habitat occur from November through February to avoid impacts to the desert tortoise which is generally inactive during this period.

In order for the FWS to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the FWS requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation on your proposed action. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement

over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

In keeping with our trust responsibility to American Indian Tribes and pursuant to Secretarial Order 3206, which entitles Tribes to full participation in the consultation process, we are copying the Hopi Tribe, Hualapai Tribe, and the Navajo Nation on the draft biological opinion and encourage you to coordinate the review of this document with them.

The FWS appreciates the efforts of the BIA, cooperating agencies, applicant and tribes to identify and minimize effects to listed species from this project. For further information please contact John Nystedt (928) 226-0614 (x104) or Brenda Smith (x101) of our Flagstaff Suboffice. Please refer to the consultation number, 22410-1993-F-0330, in future correspondence concerning this project. Please contact Michael Burroughs in the SNESFO at (702) 515-5230, for questions regarding the desert tortoise.

/s/ Steven L. Spangle

Attachments (3)

cc's (w/attachment):

NEPA Coordinator, Environmental Services, Navajo Regional Office, Bureau of Indian Affairs, Gallup, NM (Attention: Harrilene Yazzie)
Regional Director, Western Regional Office, Bureau of Indian Affairs, Phoenix, AZ (Attention: Amy Heuslein)
General Manager, Diné Power Authority (Attention: Steven Begay)
Assistant Field Manager, Division of Recreation and Renewable Resources, Las Vegas Field Office, Bureau of Land Management, Las Vegas, NV (Attention: Lucas Lucero)
Field Manager, Farmington Field Office, BLM, Farmington, NM (Attention: John Kendall)
Field Manager, Kingman Field Office, BLM, Kingman, AZ (Attention: Rebecca Peck)
State Director, Arizona State Office, BLM, Phoenix, AZ (Attention: Ted Cordery)
Forest Supervisor, Kaibab National Forest, Williams, AZ (Attention: Charles Ernst)
Superintendent, Lake Mead National Recreation Area, National Park Service, Boulder City, NV (Attention: Michael Boyles)
President, Navajo Nation, Window Rock, AZ (Attention: Daniela Roth, Fish and Wildlife Department)
Chairperson, Hualapai Tribe, Peach Springs, AZ (Attention: Kerry Christensen, Natural Resources Department)

Chairman, Hopi Tribe, Kykotsmovi, AZ (Attention: Arnold Taylor, Natural Resources Department)
Project Coordinator, EPG, Inc. (Attention: Greg Bernosky)
Fish and Wildlife Biologist, Southwest Region, USFWS, Albuquerque, NM (ARD – ES/TE) (Attention: Mary Jo Stegman)
Field Supervisor, USFWS, New Mexico Ecological Services Field Office, Albuquerque, NM (Attention: Melissa Kreutzian)
Assistant Field Supervisor, USFWS, Ecological Services, Southern Nevada Field Office, Las Vegas, NV (Attention: Michael Burroughs)
Administrator, Clark County Desert Conservation Program, Department of Air Quality and Environmental Management, Las Vegas, NV
Supervisory Biologist – Habitat, Nevada Department of Wildlife, Las Vegas NV
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, NM

Chief, Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Director, New Mexico Department of Game and Fish, Santa Fe, NM

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APPENDIX A

CONCURRENCES

In the September 18, 2006, biological assessment (BA) request for formal consultation, you concluded that the proposed action was not likely to adversely affect the black-footed ferret (*Mustela nigripes*), California condor (*Gymnogyps californianus*), bald eagle (*Haliaeetus leucocephalus*), Mexican spotted owl (*Strix occidentalis lucida*), southwestern willow flycatcher (*Empidonax traillii extimus*), bonytail chub (*Gila elegans*) and its critical habitat, razorback sucker (*Xyrauchen texanus*) and its critical habitat, Colorado pikeminnow (*Ptychocheilus lucius*) and its critical habitat, Welsh's milkweed (*Asclepias welshii*), and Mancos milk-vetch (*Astragalus humillimus*). We concur with your determinations for the following reasons:

Black-footed ferret

- The proposed action will bisect the black-footed ferret Aubrey Valley Experimental Population Area and skirt the northern edge of the reintroduction area. Prairie dog colonies (i.e., ferret habitat) occur both north and south of the proposed action, but the closest colony is about 0.75 miles to the south. The proposed action will cross near the transition into pinyon-juniper vegetation in steeper terrain, which does not provide good habitat for prairie dogs. No suitable habitat was found in two areas surveyed along the existing, parallel transmission line. Therefore, black-footed ferret habitat in the vicinity of the proposed alignment, if it occurs, is very limited.

- Pre-engineering surveys for prairie dog colonies will be conducted. Siting of towers will avoid prairie dog burrows, if present, by a distance equal to the height of a tower. If prairie dog burrows cannot be avoided, then pre-construction surveys for black-footed ferrets will be conducted and, if necessary, site-specific avoidance measures will be implemented under guidance from the FWS and, in Aubrey Valley, Arizona Game and Fish Department.

California condor

- The proposed action is within the California condor experimental population area, except at the far east and west ends of the proposed alignment. Condors are known to move over the proposed project area while foraging or conducting exploratory flights, both of which occur at relatively high altitudes. Shield (or ground) wires, in general, present a collision potential for birds[1]. However, monitoring of condors released in the Northern Arizona experimental population area has not indicated any conflict with the existing transmission line, which the proposed transmission line will closely parallel. The proposed action does not cross any major condor movement corridors, and there are no unique or special

[1] Conductors, which are several inches in diameter, are highly visible and not considered a collision threat. There is one record of a condor striking a distribution line (that had much smaller and less visible conductors) but not a transmission line.

APPENDIX A

habitat features in the vicinity of the line, so we expect that condors will only fly over the proposed line incidentally. Therefore, the potential for collision with the proposed action is extremely unlikely. Should future monitoring indicate a potential conflict (e.g., concentrated condor activity in the vicinity of the line), the situation will be assessed and, if necessary, bird flight diverters will be placed on the line.

- Several conservation measures, described in the September 2006 BA, will be implemented to reduce the potential for construction activities to attract condors and to reduce potential conflicts if condors occur at construction sites.

Bald eagle

- Wintering and migrating bald eagles are present in low densities or as infrequent migrants on the Kaibab National Forest portion of the proposed action, at Lake Mead and Lake Mohave (between which the line crosses the Colorado River) and along the San Juan River. Bird flight diverters will be placed on shield wires at the crossings of the Colorado, Little Colorado and San Juan Rivers. Therefore, the potential for collision is extremely unlikely.

- The results of pre-construction raptor surveys on the Kaibab National Forest will be used to determine the need for placement of diverters in appropriate areas such as flyways.

- Surveys will be conducted for winter roosting sites in all areas with suitable habitat prior to initiation and during construction. If an eagle is present within 0.5 mile of the project area the morning before project activity begins, or following breaks in project activity, the contractor will suspend all activity until the bird leaves of its own volition, or a biologist determines the potential for adverse effects (e.g., harassment) is insignificant.

Mexican spotted owl

- There are no records of owls within one mile of the proposed project, but suitable habitat may be present at four canyons that the proposed project crosses, and the north face of Black Mesa that the proposed project passes near (over 0.5 mile at its closest point).

- The transmission line will span the canyons and towers will be set back from the canyon edges as far as it practicable, typically at least 500 to 600 feet.

- If preconstruction surveys detect owls, or if surveys are not conducted, construction activities (including helicopter flight paths) will not be performed within 0.5 mile of suitable habitat during the breeding season (01 March to 31 August).

APPENDIX A

Southwestern willow flycatcher

- There is a Southwestern willow flycatcher breeding record several miles upstream of the proposed transmission line crossing the San Juan River and the species is known to migrate along the San Juan River, the Little Colorado River near the proposed crossing and Lake Mohave downstream of the crossing of the Colorado River. There is no suitable nesting habitat at or near any of the proposed river/lake crossings. There is some limited riparian vegetation, in the form of scattered and/or small trees, along the San Juan River.

- Towers will be placed at least 340 feet from the riparian area. No construction activities will occur in the 100-year floodplain and no riparian vegetation will be disturbed. No low level helicopter flights will occur during the breeding season.

- The potential for collision of migrating southwestern willow flycatchers with shield wires, conductors or towers is considered extremely unlikely based on their dimensions and location outside the floodplain and away from riparian vegetation.

Bonytail chub and its critical habitat (Colorado River)
Razorback sucker and its critical habitat (Colorado and San Juan rivers)
Colorado pikeminnow and its critical habitat (San Juan River)

- These fishes occur in the Colorado and/or San Juan rivers, which will be crossed by the proposed project. Towers will be placed outside the 100-year flood plain (i.e., outside designated critical habitat) and no construction activity will occur within the 100-year flood plain of these rivers or of any major drainage.

- General stormwater pollution prevention procedures to minimize erosion and sedimentation, detailed in the September 2006 BA, will be implemented and monitored at the river crossings.

Welsh's milkweed

- There are only two records of this species on the Navajo Nation, with the closest occurrence being 10 miles from the proposed project. Potentially suitable habitat in the action area is considered limited, occurring in several scattered locations between Dennehotso and the Red Mesa East and West substation sites.

- Preconstruction surveys will be conducted and, if necessary, adjustments will be made so that no towers, staging areas for equipment or personnel, or access roads or spurs will be permitted within 100 feet of individual plants. Towers may need to be placed in potentially suitable unoccupied habitat.

APPENDIX A

Mancos milk-vetch

- No plants were found in a 1996 nor a 2006 survey of the proposed alignment. However, a population occurs at the base of a tower on the adjacent transmission line, and suitable habitat is present along the proposed alignment.

- Pre-construction surveys will be conducted and, if necessary, the location of towers, and access and spur roads will be adjusted. No construction related activity will occur within 100 feet of plants. To the greatest extent practicable, all unoccupied habitat will be avoided.

- Where practicable, cable fencing and locked gates will be installed to preclude or reduce future off-highway vehicle access to the area.

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ATTACHMENT B

DESERT TORTOISE MONITOR AND BIOLOGIST RESPONSIBILITIES AND QUALIFICATIONS

DESERT TORTOISE MONITOR -- Approved by the Fish and Wildlife Service to monitor project activities within desert tortoise habitat, ensure proper implementation of protective measures, and record and report desert tortoise and sign observations in accordance with approved protocol, report incidents of noncompliance in accordance with a biological opinion or permit, move desert tortoises from harm's way when desert tortoises enter project sites and place these animals in "safe areas" pre-selected by Authorized Biologists or maintain the desert tortoises in their immediate possession until an Authorized Biologist assumes care of the animal. Monitors assist Authorized Biologists during surveys and often serve as "apprentices" to acquire experience. Monitors are not authorized to conduct presence/absence or clearance surveys unless directly supervised by an Authorized Biologist; "directly supervised" means the Authorized Biologist is direct voice and sight contact with the Monitor.

AUTHORIZED BIOLOGIST – Approved by the Fish and Wildlife Service to conduct all activities described in the previous section for Desert Tortoise Monitors, and to locate desert tortoises and their sign (i.e., conduct presence/absence and clearance surveys) and ensure that the effects of the project on the desert tortoise and its habitat are minimized in accordance with a biological opinion incidental take permit. Authorized Biologists must keep current with the latest information on U.S. Fish and Wildlife Service protocols and guidelines. An Authorized Biologist must have thorough and current knowledge of desert tortoise behavior, natural history, and ecology, physiology, and demonstrated substantial field experience and training to safely and successfully:

- handle and temporarily hold desert tortoises
- excavate burrows to locate desert tortoise or eggs
- relocate/translocate desert tortoises
- reconstruct desert tortoise burrows
- unearth and relocate desert tortoise eggs
- locate, identify, and record all forms of desert tortoise sign

GENERAL DESERT TORTOISE BIOLOGIST/MONITOR QUALIFICATIONS STATEMENT

This form should be used to provide your qualifications to agency officials if you intend to handle or survey desert tortoises during construction or other projects authorized under Sections 7 or 10 (HCPs) of the Endangered Species Act. If you seek approval to attach/remove/insert any devices or equipment to/into desert tortoises, withdraw blood, or conduct other procedures on desert tortoises, a recovery permit or similar authorization may be required.

Application for a recovery permit requires completion of Form 3-200-55, which can be downloaded at http://www.fws.gov/forms/3-200-55.pdf. Supplemental information for the recovery permit application should be provided with the form, *Statement of Skills and Experience with Specialized Desert Tortoise Procedures,* which is available from a U.S. Fish and Wildlife Service Field Office.

1. Contact Information:

Name	
Address	
City, State, Zip Code	
Phone Number(s)	
Email Address	

2. **Date of Statement:**

3. **States in which authorization is requested (check all that apply):**

☐ California ☐ Nevada ☐ Utah ☐ Arizona

4. **Please provide information on the project:**

USFWS BO or HCP Number		**Date:**
Project Name		
Federal Agency		
Proponent or Contractor		

5. **Specify project and/or activities anticipated that require authorization (e.g. capture/release, weigh, measure, attach and remove telemetry devices and other hardware, etc.). Specifically reference the relevant document and page numbers with authorizing statements (e.g., BO, page 19, terms and conditions 6, 7, and 8):**

6. **If you hold, or have held, any relevant state or federal wildlife permits, provide the following:**

Species	Dates	State (specify) or Federal Permit Number	Authorized Activities

7. **Education (provide up to three, listing most recent first):**

Institution	Dates attended	Major/Minor	Degree received
1.			
2.			
3.			

8. Desert Tortoise Training. Include numbers of animals handled under the Experience section (No. 9 below).			
Name/Type of Training	**Dates (From/To)**	**Location**	**Instructor/Sponsor**
1.			
2.			
3.			
4.			

9. **Experience** – Complete for each position held, attach additional sheets as necessary. Include only those positions relevant to the requested work with desert tortoises. Distinguish between Mojave desert tortoise and other experience. Include only your experience, not information for the project you worked on (e.g. if 100 tortoises were handled on a project and you handled 5 of those tortoises, include only those 5). List most recent experience first.

General Field Experience:		
Project Name & Job Title	**Dates (From/To)**	**Job Duties & Responsibilities/ Skills Used or Acquired**
1.		
2.		
3.		
4.		

Specific Desert Tortoise Field Experience:

a. Number of hours or 8-hour days (specify) conducting desert tortoise-related activities (referenced above):

b. Number of miles/kilometers walked conducting survey transects:

c. Number of wild, free-ranging desert tortoises you encountered. <100 mm carapace length:

≥100 mm carapace length:

d. Number of wild, free-ranging desert tortoises you personally handled (circle one for each size category).

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

e. Number of captive desert tortoises you personally handled (circle one for each size category).

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

f. Number of transmitters or other devices (specify) you personally attached to or removed from wild, free-ranging desert tortoises (circle one for each size category).

Attached:

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

Removed:

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

g. Number of transmitters or other devices (specify) you personally attached to or removed from other relevant species or captive desert tortoises (circle one for each size category).

Specify species or if captive desert tortoises:

Attached:

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

Removed:

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

h. Number of blood samples that you personally collected from wild, free-ranging desert tortoises (circle one for each size category).

<100 mm:	Zero	<10	10-50	50-100	100-200	>200
≥100 mm:	Zero	<10	10-50	50-100	100-200	>200

Specific Desert Tortoise Field Experience Continued:

i. Number of blood samples that you personally collected from other relevant species or captive desert tortoises (circle one for each size category).

Specify species or if captive desert tortoises:

Specify type of procedure:

<100 mm:	**Zero**	**<10**	**10-50**	**50-100**	**100-200**	**>200**
≥100 mm:	**Zero**	**<10**	**10-50**	**50-100**	**100-200**	**>200**

j. Experience conducting other procedures on wild, free-ranging desert tortoises (circle one for each size category).

Specify type of procedure:

<100 mm:	**Zero**	**<10**	**10-50**	**50-100**	**100-200**	**>200**
≥100 mm:	**Zero**	**<10**	**10-50**	**50-100**	**100-200**	**>200**

k. Experience conducting other procedures on other relevant species or captive desert tortoises (circle one for each size category).

Specify species or if captive desert tortoises:

Specify type of procedure:

<100 mm:	**Zero**	**<10**	**10-50**	**50-100**	**100-200**	**>200**
≥100 mm:	**Zero**	**<10**	**10-50**	**50-100**	**100-200**	**>200**

l. Prior authorizations for desert tortoise under Biological Opinions or Habitat Conservation Plans (specify number, date, project name and location). Do not reiterate "general field experience" information:

10. Provide at least 3 references that can verify your field qualifications and skills:

Name	Employer/Position	Address/Location	Phone Number	Email
1.				
2.				
3.				

I certify that the information submitted in this form is complete and accurate to the best of my knowledge and belief. I understand that any false statement herein may subject me to the criminal penalties of 18 U.S.C. Ch.47, Sec. 1001.

Signed: _____ **Date:** _____

ATTACHMENT C

SECTION 7 FEE PAYMENT FORM
Entire form is to be completed by project proponent

Biological Opinion File Number: 1-5-07-F-435

Fish and Wildlife Service Office that issued the Opinion:
Nevada Fish and Wildlife Office, Reno, Nevada

Species: Desert tortoise (*Gopherus agassizii*)

Project: Navajo Transmission Project

Number of acres anticipated to be disturbed:
51 acres critical habitat on Federal lands (factor 4)
24.8 acres non-critical habitat on Federal lands (factor 1)

County - Nevada: Clark

Fee rate (per acre) - Critical habitat on Federal lands: $2,820 (until March 1, 2007)
Fee rate (per acre) - non-critical habitat on Federal lands: $705 (until March 1, 2007)

Total payment required: $ 161,304.00

Amount of payment received: $_____ **Date of receipt:** _____

Check or money order number: _____

Project proponent: Diné Power Authority **Telephone number:**_____

Authorizing agencies: Bureau of Land Management, Las Vegas, Nevada
National Park Service- Lake Mead National Recreation Area, Boulder City, Nevada

Make checks payable to: Clark County Treasurer

Deliver check to: Clark County Desert Conservation Program
c/o Dept. of Air Quality and Environmental Management
Clark County Government Center
500 S. Grand Central Parkway, first floor (front counter)
Las Vegas, Nevada 89106
(702) 455-5821

If you have questions, you may call the Southern Nevada Field Office of the U.S. Fish and Wildlife Service at (702) 515-5230.