APPENDIX C

BIOLOGICAL OPINION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
NEVADA ECOLOGICAL SERVICES FIELD OFFICE
4600 Kietzke Lane, Building C-125
Reno, Nevada 89502-5093

May 12, 1993
File No. 1-5-93-F-91

Memorandum

To: District Manager, Burley District, Bureau of Land Management, Burley, Idaho (Attn: Karl Simonson)

From: Field Supervisor, Ecological Services, Reno, Nevada

Subject: Formal Section 7 Consultation for the Issuance of a Right-of-way Permit for the Southwest Intertie Project

This Biological Opinion responds to your December 23, 1992, request for formal consultation with the Fish and Wildlife Service (Service) pursuant to section 7 of the Endangered Species Act of 1973, as amended (Act). The Service will analyze those impacts upon the desert tortoise (*Gopherus agassizii*), a species federally listed as threatened, that may result from the issuance of a right-of-way permit for the Southwest Intertie Project (SWIP). This consultation is conducted pursuant to 50 CFR Part 402 of our interagency regulations governing section 7 of the Act. The Service initiated formal consultation upon receipt of your request on December 28, 1992.

The Bureau of Land Management (BLM) has determined that the proposed action is not likely to adversely affect the endangered bald eagle (*Haliaeetus leucocephalus*) or the American peregrine falcon (*Falco peregrinus anatum*). The Service concurs with this finding. Therefore, these two species will not be addressed in this Biological Opinion.

This Biological Opinion contains information from BLM correspondence dated December 23, 1992, January 6, 1993, February 23, 1993, March 26, 1993, and May 3, 1993; Dames & Moore correspondence dated January 18, 1993; February 9, 1993, March 4, 1993, March 25, 1993, and April 23, 1993; Service correspondence dated January 5, 1993, March 24, 1993, and April 30, 1993; a meeting held January 11, 1993, with BLM, Los Angeles Department of Water and Power, Idaho Power Company (Idaho Power), and Dames & Moore; a biological assessment dated December 1992; conversations with BLM and Dames & Moore staffs; and information in our files.

Description of the Proposed Action

BLM received an application from Idaho Power for a right-of-way permit (BLM No. N-49781) to construct SWIP, a 500-kilovolt (kV) transmission line project. SWIP consists of two segments: (1) A 500-mile Midpoint to Dry Lake segment between an existing substation near Shoshone, Idaho, and a new proposed substation site in Dry Lake Valley northeast of Las Vegas, Nevada; and (2) a 200-mile Crosstie segment between a new proposed substation site near Ely, Nevada, east to a new proposed substation near Delta, Utah (Figure 1).

Only the last 53.2 miles of the Midpoint to Dry Lake segment is in desert tortoise habitat. The BLM estimates that a total of 379.7 acres of desert tortoise habitat will be disturbed during the development of this portion of the Midpoint to Dry Lake segment. Wire pulling sites and wire splicing sites will result in the short-term disturbance of 24.4 acres of desert tortoise habitat. Marshaling yards, batch plants, tower bases, tower footings, and tower anchors will result in the long-term disturbance of 355.3 acres of desert tortoise habitat.

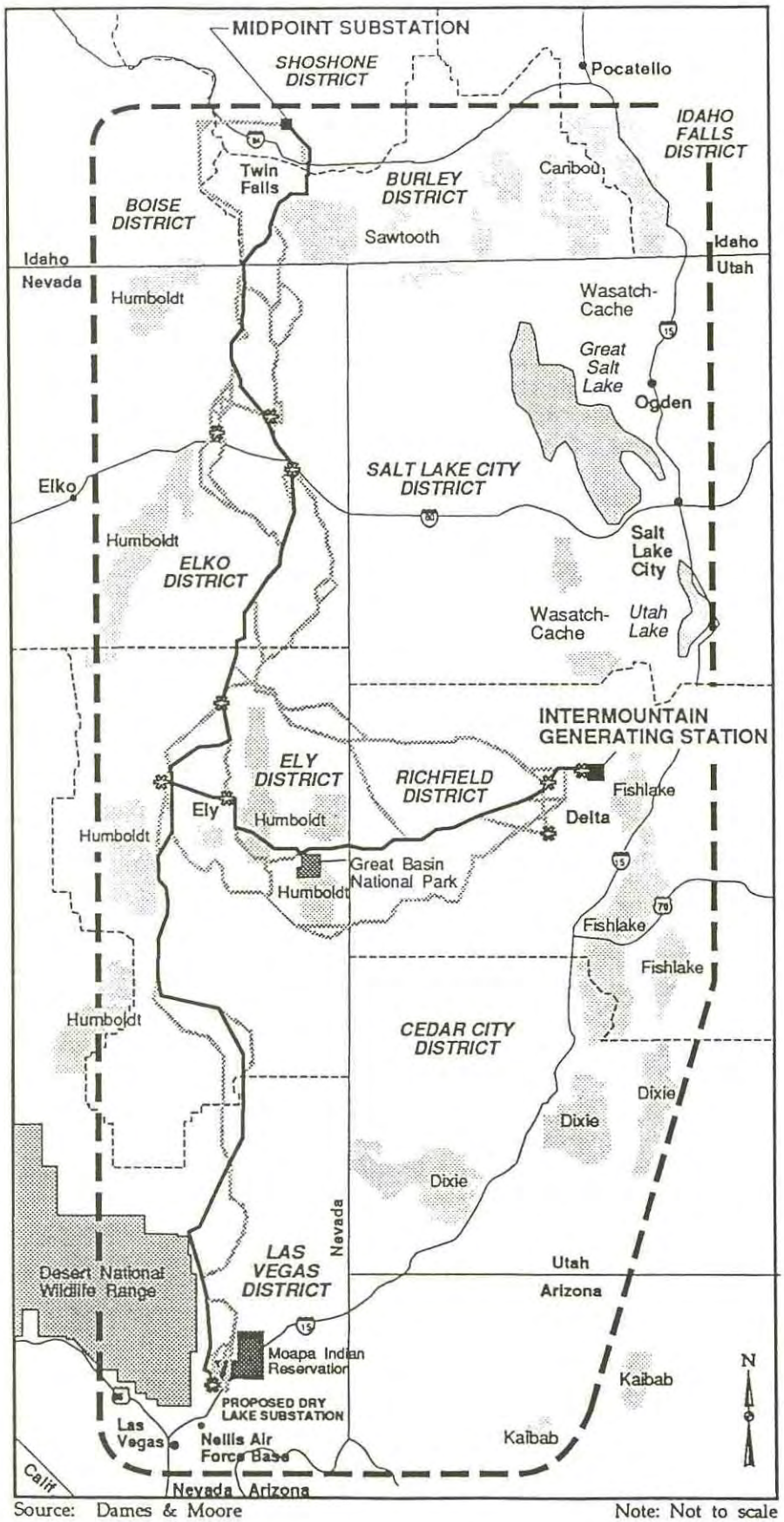
According to the offsite compensation mitigation formula developed and approved by the Management Oversight Group in "*Compensation for the Desert Tortoise*" (Hastey et al. 1991), Idaho Power shall pay a total offsite mitigation fee of $522,859.50. The mitigation rate is based on $295 per acre, multiplied by a compensation value of 4, multiplied by 24.4 acres of short-term disturbance of desert tortoise habitat and $295 per acre, multiplied by a compensation value of 5, multiplied by 355.3 acres of long-term disturbance of desert tortoise habitat.

BLM proposes the following mitigation measures to minimize impacts to desert tortoises from the proposed action (BLM 1993, Dames & Moore 1992):

1. To the extent possible, tower sites will not be located within 100 feet of caliche caves or rock coversites which could be used by tortoises.

2. Access along the project will only be allowed from those points at which the project crosses Highway 93, Kane Springs Road, State Route 168, the substation, and one access point near mile marker 15 within Link Number 720.

3. Prior to construction, a vegetative rehabilitation plan must be incorporated into the Construction, Operations, and Maintenance Plan (COMP) that shall be approved by BLM and Service. This plan will describe in specific detail as to how surface-disturbance sites will be rehabilitated using reasonable state-of-the-art techniques. As an



Source: Dames & Moore

Note: Not to scale

LEGEND

- PROPOSED ACTION
- Alternative Routes
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Southwest Intertie Project Alternative Corridors

Figure 1

objective, at least a 70-percent recovery towards natural conditions should be achieved within 7 years of completion of the rehabilitation project using native plant species. Disturbed sites within 500 feet of all access points should be recovered to 90 percent of preconstruction condition within 2 years of completion of the project construction. Vegetation rehabilitation actions will begin within 1 year of project construction completion and be completed within 2 years of construction completion. Recovery includes recontouring to natural contours and reestablishing locally native plant species within the disturbed sites. Recovery success will be based upon percent ground cover (both basal and canopy), plant composition, and plant frequency in relation to those natural conditions occurring adjacent to the project site. The rehabilitation plan shall also describe in detail how the evaluation will be made for determining the success of the rehabilitation effort.

4. Prior to construction and development of a vegetative rehabilitation plan, the project proponent shall collect baseline vegetative data within the project area to be used as baseline against which recovery efforts will be evaluated. BLM and Service will determine in consultation with the project proponent the level of inventory necessary to achieve a reasonable baseline data base.

5. The project proponent shall receive credit and subsequent rebate of offsite mitigation fees in direct proportion to the extent in which actual surface disturbance has been reduced from that identified in the biological assessment. Such rebates may be made upon completion of project construction and all clean-up operations but before vegetative rehabilitation actions are taken. The burden will be on the project proponent to demonstrate that the actual surface disturbance is indeed less than that identified in the biological assessment.

6. Offsite mitigation fees collected shall be deposited in an interest-bearing escrow account to be established by the project proponent. Upon conclusion of the rehabilitation evaluation, which shall occur no later than 7 years after the reclamation project work is completed, the project proponent shall receive a refund of the offsite mitigation fees equal to the percentage in which the rehabilitation is successful. For example, if the disturbed sites have been rehabilitated to 70 percent of the natural plant community, the project proponent will receive back 70 percent of the mitigation fee. Remaining mitigation fees will be disposed of in accordance with concurrent instructions from BLM and

Service. Specific details shall be discussed in the Rehabilitation Plan. If rehabilitation objectives are achieved prior to the 7-year evaluation period, the project proponent may request a refund of the appropriate level of mitigation fees as described above. However, the project proponent will be required to provide an evaluation (that meets BLM and Service requirements as identified in the rehabilitation plan) as to the success of the rehabilitation effort.

7. Prior to blasting, all tortoise burrows/coversites within a 200-foot radius of the blast site will be located and the entrances carefully stuffed with crumpled newspapers or other material approved by BLM and Service. After blasting is completed, all burrows/coversites will be inspected for damage. If a burrow/coversite has collapsed and there is a possibility it is occupied, it will be excavated to ensure that no tortoises have been buried and, therefore, in danger of suffocation. If a tortoise is present, or potentially present (e.g, end of tortoise burrow is not visible), and the burrow/coversite has not been damaged; stuffing material will remain in place for 2 weeks in order to prevent tortoises from abandoning the burrow/coversite.

   All tortoises located within 100 feet of the blast site will be removed and temporarily relocated (in accordance with desert tortoise handling protocol) prior to blasting.

8. To prevent mortality, injury, and harassment of desert tortoises and damage to their burrow and coversite, no pets shall be permitted in any project construction area unless confined or leashed.

9. Where construction activities occur during the tortoise activity period (March 1 through October 31), the project proponent shall install a temporary tortoise-proof fence along the access routes and construction sites.

10. During the tortoise activity period, a tortoise biologist shall be present during all construction activity where one or more pieces of heavy construction equipment are being used.

11. All construction-vehicle movement outside the right-of-way will be restricted to predesignated access, contractor acquired access, or public roads.

12. The real limits of construction activities will be predetermined, with activity restricted to and confined within those limits. No paint or permanent discoloring

agents will be applied to rocks or vegetation to indicate survey or construction activity limits.

13. In construction areas where recontouring is not required, vegetation will be left in place wherever possible and original contour will be maintained to avoid excessive root damage and allow for resprouting.

14. The project sponsors will continue to monitor studies performed to determine the effects of audible noise and electrostatic and electromagnetic fields in order to ascertain whether these effects are significant.

15. Hazardous materials shall not be drained onto the ground or into streams or drainage areas. Totally enclosed containment shall be provided for all trash. All construction waste including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials shall be removed to a disposal facility authorized to accept such materials.

16. No widening or upgrading of existing access roads will be undertaken in the area of construction and operation, except for repairs necessary to make roads passable, where soils and vegetation are very sensitive to disturbance.

17. The alignment of any new access roads or overland routes will follow the designated area's landform contours where possible, provided that such alignment does not additionally impact resource values. This would minimize ground disturbance and/or reduce scaring (visual contrast).

18. All new access roads not required for maintenance will be permanently closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager (e.g., stockpiling and replacing topsoil, or rock replacement). This would limit new or improved accessibility into the area.

19. The project proponent will designate a field contact representative (FCR). The FCR will be responsible for overseeing compliance with protective stipulations for the desert tortoise and for coordinating compliance with BLM. FCR will have the authority to halt activities of construction equipment which may be in violation of the stipulations.

20. All construction and maintenance workers will participate in a tortoise-education program. The program will be developed by the project proponent prior to the beginning

of construction. The program will be submitted to the Service for review and approval prior to implementation. The program will include, at a minimum, the following topics: Occurrence of desert tortoises, sensitivity of the species to human activities, legal protection for desert tortoises, penalties for violations of Federal and State laws, general tortoise activity patterns, reporting requirements, measures to protect tortoises, and personal measures employees can take to promote the conservation of desert tortoises.

21. Within desert tortoise habitat, a biologist will be assigned to the pre-construction survey team(s). The biologist will be responsible for ensuring that placement of new access routes, spur roads, and tower sites affect as few tortoise burrows as possible. The placement of access and spur roads will be as direct as possible to minimize habitat disturbance while minimizing destruction of tortoise burrows. Other work areas (e.g., splicing, tensioning, pulling, batch sites) will also be surveyed by a biologist as construction proceeds. Potential work areas will be flagged several days prior to construction for review by a biologist. To the extent possible, these sites will be located in already disturbed areas.

22. Overnight parking and storage of equipment and material will be in previously disturbed areas (i.e, lacking vegetation). These areas will also be designated by the pre-construction survey team. If previously disturbed areas are not available, these activities will be restricted to the right-of-way and will be cleared of tortoises by the on-site biologist prior to use.

23. Within desert tortoise habitat, construction and maintenance workers will strictly limit their activities and vehicles to construction areas and routes of travel which have been flagged to eliminate adverse impacts to desert tortoises and their habitat. Aside from these areas, workers may not drive cross-country even within the right-of-way. All workers will be instructed that their activities are restricted to flagged and cleared areas.

24. To the extent possible, vehicle use on spur roads, tower sites, and at splicing and tensioning sites, will occur by crushing of vegetation only (i.e., no blading of such would occur). FCR will ensure that blading is conducted only where necessary. However, due to construction constraints, a result of equipment size and personnel safety, most spur roads and tower sites would need to be bladed.

25. Prior to construction, a plan establishing handling, holding, and relocation procedures for tortoises will be developed. The plan will be developed in consultation with BLM and the Service, and will be approved by these agencies. This plan will include, at a minimum: (1) A protocol for moving tortoises found above ground in construction areas; (2) a protocol for excavating and relocating tortoises found in burrows in areas flagged for disturbance; and (3) the techniques for constructing artificial burrows for relocated tortoises. The plan will take into account the time of year and temperature ranges in establishing procedures. The purpose for deferring development of the plan is to ensure the use of the most current and effective techniques available at the time of construction.

26. The Service will be notified within 3 days of any tortoise death or injury caused by project activities. Notification would include the date, time, circumstances, and location of any injury or death. Dead animals may be marked and left onsite. Injured animals will be transported to a qualified veterinarian. The Service will furnish direction on the final disposition of tortoises taken to a veterinarian.

27. Trash and food items will be removed daily by the construction workers and placed in raven-proof containers.

28. From March 15 through November 1, construction and maintenance vehicles will not exceed a speed of 25 mile per hour in tortoise habitat.

29. No later than 90 days after completion of construction within tortoise habitat, FCR and on-site biologist will prepare a report for BLM and Service. The report will document the effectiveness of the tortoise mitigation measures, the number of tortoises excavated from burrows, and the number of tortoises moved from construction sites. The report will make recommendations for modifying or refining the stipulations to enhance benefits to the tortoise or to reduce needless hardship on the project proponent. The report will include an estimate of the actual acreage of habitat disturbance caused by crushing and blading versus what was estimated prior to construction.

30. Herbicides will not be used as a part of this project.

Status of the Species/Environmental Baseline

The desert tortoise, a large herbivorous reptile, is generally active when annual plants are most common (spring, early summer, autumn). Desert tortoises usually spend the remainder of the year in shelter sites, escaping the extreme weather conditions of the desert. Sheltering habits of desert tortoises vary greatly in different geographic locations. Shelter sites may be located under bushes, in the banks or beds of washes, in rock outcrops, or in caliche caves. Further information on the range, biology, and ecology of the desert tortoise can be found in Berry (1984), Berry and Burge (1984), Burge (1978), Burge and Bradley (1976), Hovik and Hardenbrook (1989), Karl (1981, 1983a, 1983b), Luckenbach (1982), and Weinstein et al. (1987).

On April 2, 1990, the Service determined the Mojave population of the desert tortoise to be threatened (Service 1990). The Mojave population includes those animals living north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah and in the Colorado Desert in California (a division of the Sonoran Desert). In Nevada, the native range of this species is generally restricted to Clark County and those portions of Nye and Lincoln Counties south of 37 degrees North latitude and below approximately 1,330 meters elevation (4,000 feet). Reasons for listing the desert tortoise included loss of habitat from construction projects such as roads, housing and energy developments, and conversion of native habitat to agriculture. Grazing and off-road vehicles have degraded additional habitat. Also cited as threatening the desert tortoise's continuing existence were illegal collection, upper respiratory tract disease, and predation on juvenile desert tortoises by common ravens *(Corvus corax)*.

According to *Desert Tortoise Habitat Management on Public Lands; A Rangewide Plan* (Spang et al. 1988), BLM classified desert tortoise habitat into three categories based on: (1) Importance of the habitat to maintaining viable populations; (2) resolvability of conflicts; (3) desert tortoise density; and (4) desert tortoise population status (stable, increasing, or decreasing). SWIP traverses 53.2 miles of desert tortoise habitat of which 45.7 miles is classified as category I desert tortoise habitat and 7.5 miles is classified as category III desert tortoise habitat (Dames & Moore 1992).

The *Short-Term Habitat Conservation Plan for the Desert Tortoise in Las Vegas Valley, Clark County, Nevada* (Regional Environmental Consultants 1991), identifies 14 potential tortoise management areas (PTMAs) in Clark and Lincoln Counties. Only the Eldorado and the Piute Valley PTMAs have

been designated as Tortoise Management Areas (TMAs). SWIP traverses the Coyote Spring Valley PTMA.

The *Draft Recovery Plan for the Desert Tortoise (Mojave Population)* (Brussard et. al. 1993) identifies proposed desert wildlife management areas (DWMAs) where management actions should be undertaken to recover the desert tortoise. SWIP traverses the proposed Mormon Mesa DWMA.

Based on BLM triangular-strip transects Dames & Moore (1992) estimated that SWIP traverses 4.3 miles of low-density desert tortoise habitat, 3.2 miles of low- to medium-density habitat, 30.2 miles of medium- to high-density habitat, and 15.5 miles of high-density habitat. Also, SWIP traverses the creosote-bursage series of the Mojave Desertscrub biome. Dominant shrubs are cresotebush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*).

Effects of the Proposed Action on the Listed Species

The proposed development of SWIP may result in the short-term disturbance of 24.4 acres of desert tortoise habitat and the long-term disturbance of 355.3 acres of desert tortoise habitat. Mitigation proposed by BLM to require Idaho Power to set up a interest-bearing escrow account for the rehabilitation of the desert tortoise habitat destroyed during the construction of SWIP should minimize these impacts.

The proposed development of SWIP may impact 95 desert tortoises. Desert tortoises may be killed or injured by vehicles and may be harassed through removal from construction areas. The proposed project could result in the death or injury of desert tortoises that move onto construction areas and roads used by preconstruction and construction crews (Bury 1978, Luckenbach 1975, Nicholson 1978). Furthermore, vehicles that stray from construction areas and roads may crush desert tortoises above ground or in their burrows. Mitigation proposed by BLM to require Idaho Power to: (1) Install a temporary tortoise-proof fence around the perimeter of construction zones during desert tortoise activity period; and (2) restrict vehicle access to five specific access routes should minimize these impacts.

Desert tortoises may be killed or injured by vehicles, resulting from the increased accessibility of the area during and after construction of the SWIP transmission line. Such increased access may also result in increased illegal collection of desert tortoises found on or near roadways. This may impede BLM's effort to manage the project area as a recovery area for desert tortoises. BLM proposes to minimize this impact by requiring rehabilitation of all roadways; however, before rehabilitation is complete, the roadways will be visible to off-road vehicle enthusiasts.

Desert tortoises may be killed or injured by the noise and electrostatic and electromagnetic fields generated by the SWIP transmission lines.

Additional harassment may occur from increased levels of human activity, noise, and ground vibrations produced by vehicles and heavy equipment (Bondello 1976, Bondello et al. 1979); attraction of ravens to the area if trash is not removed immediately (Berry 1985, BLM 1990); capture of tortoises by construction and maintenance crews for use as pets; death or injury of desert tortoises by construction and maintenance crews' unleashed dogs; and entrapment of desert tortoises in their collapsed burrows during blasting. BLM proposes to minimize these adverse impacts by requiring Idaho Power to: (1) Provide a desert tortoise-education program; (2) initiate a leashed-dog program; (3) initiate a trash-abatement program; and (4) initiate a desert tortoise burrow-protection program prior to blasting should minimize these impacts.

The Service has determined that the level of impact described herein will not reduce appreciably the likelihood of survival and recovery of the Mojave population of the desert tortoise in the wild because: (1) The proposed temporary tortoise-proof fencing along the perimeters of all construction zones will exclude desert tortoises from entering the project site during construction; (2) BLM will require Idaho Power to establish and maintain an interest-bearing escrow account for the rehabilitation of desert tortoise habitat; (3) the project site is near U.S. Highway 93, and (4) access roads will be minimized and rehabilitated following construction.

Cumulative Effects

Cumulative effects are those effects of future non-Federal (State, local government, or private) activities on endangered and threatened species or critical habitat that are reasonably certain to occur during the course of the Federal activity subject to consultation. Future Federal actions are subject to the consultation requirements established in section 7 of the Act and, therefore, are not considered cumulative to the proposed action.

The majority of the land surrounding the project site is under public ownership and managed by BLM. The proposed SWIP would allow utilities in the northwestern, southwestern, and intermountain United States, to add capacity and reliability to the western electrical power system at an economical price. This system may stimulate development in southern Nevada, especially in the Las Vegas Valley.

The Las Vegas Valley is currently undergoing rapid commercial and residential development. Nearly all portions of the valley contain ongoing and planned future developments,

including much of the northern, western, and southern portions, as well as the Henderson area. Over the next 10 years, the Las Vegas Valley is expected to gain over 215,000 residents. Between 1979 and 1986, the amount of developed land in the Las Vegas Valley increased annually by about 7 percent. That trend is expected to continue well into the 1990s.

Clark County is proceeding with preparation of a long-term habitat conservation plan (HCP) for an incidental take permit, pursuant to section 10(a)(1)(B) of the Act. The application will address take of desert tortoises and their habitat from future development projects on all non-Federal lands within Clark County and will propose mitigation to minimize such impacts.

Biological Opinion

It is our Biological Opinion that the issuance of a right-of-way permit for the development of SWIP is not likely to jeopardize the continued existence of the threatened Mojave population of the desert tortoise. Because critical habitat was designated for the Beaver Dam Slope subpopulation in Utah in 1980, but not for the subpopulations in Arizona, California, and Nevada, no critical habitat will be destroyed or adversely modified by issuance of this permit.

Incidental Take

Sections 4(d) and 9 of the Act, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering (50 CFR § 17.3). "Harass" is defined as 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 (50 CFR § 17.3). Under the terms of sections 7(b)(4) and 7(o)(2) of the Act, taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the reasonable and prudent measures, and the terms and conditions that implement them, as set forth below.

The Service hereby incorporates by reference BLM's 30 mitigation measures from the *Description of the Proposed Action* into this incidental take statement as part of these terms and conditions. The following terms and conditions either specify additional measures considered necessary by the

Service or modify measures proposed by BLM. Where these terms and conditions vary from or contradict mitigation measures proposed under the *Description of the Proposed Action*, specifications in these terms and conditions shall apply. The measures described below are nondiscretionary and must be implemented by BLM so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply.

BLM has a continuing duty to regulate the activity that is covered by this incidental take statement. If BLM fails to require the applicant 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.

Based on the analysis of impacts provided above, mitigation measures proposed by BLM, desert tortoise surveys conducted by BLM, and anticipated project duration, the Service anticipates that the following take could occur as a result of the proposed action:

1. Five (5) desert tortoise may be accidently injured or killed by vehicles or equipment during development and maintenance of SWIP.

2. Ninety (90) desert tortoises may be harassed by removal from the boundaries of SWIP.

3. An unknown number of desert tortoise eggs may be destroyed during development of SWIP.

4. An unknown number of desert tortoises may be taken in the form of indirect mortality through predation by ravens drawn to trash within the SWIP site.

5. An unknown number of desert tortoises may be taken indirectly in the form of harm through increased noise associated with operation of heavy equipment.

6. An unknown number of desert tortoises may be taken indirectly in the form of harm through noise and electrostatic and electromagnetic fields associated with operation of 500-kV transmission lines.

7. An unknown number of desert tortoises may be taken indirectly in the form of harm through suffocation in burrows collapsed during blasting operations.

8. An unknown number of desert tortoises may be killed or injured by vehicles driving off-road to conduct emergency repairs of electrical transmission lines.

9. A total of 379.7 acres of desert tortoise habitat may be destroyed during construction of SWIP which could result in harm and/or harassment of desert tortoises.

Reasonable and Prudent Measures

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize take:

1. Measures shall be taken to minimize mortality or injury of desert tortoises due to construction or maintenance activities and operation of heavy equipment.

2. Measures shall be taken to minimize predation on tortoises by ravens drawn to construction areas or by unleashed dogs brought to construction areas.

3. Measures shall be taken to minimize destruction of desert tortoise habitat, such as soil compaction, erosion, or crushed vegetation, due to construction or maintenance activities.

4. Measures shall be taken to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this Biological Opinion.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, BLM must comply with the following terms and conditions, which implement the reasonable and prudent measures described above.

1. To implement Reasonable and Prudent Measure number 1, BLM shall fully implement mitigation measures 7, 9, 10, 11, 12, 14, 15, 25, and 28 from the *Description of the Proposed Action*.

   In addition, to BLM's mitigation measure 9, the following shall be added to their measure:

   > Typical fence design will consist of 1-inch mesh, 48-inch-wide, plastic fence constructed to maintain zero clearance between the ground and the bottom edge of the fence. Other proposed fence designs must be approved by the Service prior to implementation.

   In addition, to BLM's mitigation measure 28, the following shall be added to their measure:

BLM's mitigation measure shall be initiated from March 1 through October 31 during the desert tortoise active period.

In addition, to BLM's mitigation measures, the following terms and conditions shall be implemented:

a. All construction sites and access roads shall be clearly marked or flagged at the outer limits prior to the onset of any surface-disturbing activity. All personnel shall be informed that their activities must be confined to within the marked or flagged areas.

   Construction sites and access roads shall be surveyed by qualified tortoise biologists no more than 15 days prior to initiation of construction. Surveys shall provide 100-percent coverage of the entire construction area. All desert tortoise burrows located will be conspicuously flagged or marked. All desert tortoise burrows, and other species' burrows which may be used by desert tortoises, will be examined with a fiber-optic scope, if necessary, to determine occupancy of each burrow by tortoises.

b. From November 1 through February 28, environmental monitors (in place of desert tortoise biologists) will be onsite during all phases of transmission line construction to ensure all construction vehicles and heavy equipment remain in the boundaries of the construction zone delineated by Term and Condition 1.a. above.

c. Any desert tortoises or eggs found along the fence will be removed by qualified tortoise biologists in accordance with the attachment.

d. The tortoise-proof fence shall be monitored at least monthly, particularly following precipitation, and maintained during construction. Monitoring and maintenance shall include regular removal of trash and sediment accumulation and restoration of zero clearance between the ground and the bottom of the fence.

e. Desert tortoises and eggs found within construction sites shall be removed by qualified desert tortoise biologists in accordance with the attachment. Desert tortoises removed from the project sites shall be released into undisturbed habitat within 1,000 feet from the collection site.

Desert tortoises removed from these construction sites shall be placed in the shade of a shrub or in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificial burrow following the protocol provided in the attachment. Desert tortoises shall not be placed on lands outside the administration of the Federal government without the written permission of the landowner. Desert tortoises shall be purposefully moved only by qualified desert tortoise biologists solely for the purpose of moving them out of harm's way.

If a suitable location is not found, desert tortoises shall be provided to a Service-approved transfer facility. The transfer facility must be provided with a 10-day notice that tortoises may be delivered. Idaho Power shall bear all costs associated with delivery of desert tortoises to the transfer facility. Each desert tortoise shall be delivered in an individual cardboard box which is marked with the date and location of collection, Biological Opinion number, and "BLM" to distinguish these desert tortoises from those collected on private lands.

2. To implement Reasonable and Prudent Measure number 2, BLM shall fully implement mitigation measures 8 and 27 from the *Description of the Proposed Action*.

3. To implement Reasonable and Prudent Measure number 3, BLM shall fully implement mitigation measures 1, 2, 3, 5, 6, 13, 16, 17, 18, 21, 22, 23, 24, and 30 from the *Description of the Proposed Action*.

In addition, mitigation measure 1 shall be replaced by the following term and condition and shall be implemented:

Tower sites shall not be located within 100 feet of caliche caves or rock coversites which could be used by tortoises.

In addition, to BLM's mitigation measure 6, the following shall be added to their measure:

Prior to issuance of right-of-way permit, Idaho Power shall transfer $524,067.50 into an interest-bearing escrow account administered by Idaho Power, as offsite mitigation for the destruction of desert tortoise habitat within the project boundaries. The mitigation rate is based on $295 per acre,

multiplied by a compensation value of 5, multiplied by 355.3 acres of long-term disturbance of desert tortoise habitat. Any refunds to Idaho Power shall include principle and interest.

In addition, mitigation measure 16 shall be replaced by the following term and condition and shall be implemented:

> No widening or upgrading of existing access roads will be undertaken in the area of construction and operation, except for minor repairs necessary to make roads passable.

In addition, mitigation measure 24 shall be replaced by the following term and condition and shall be implemented:

> Vehicle use on spur roads, tower sites, and at splicing and tensioning sites, shall occur by crushing of vegetation only (i.e., no blading of such would occur).

In addition, to BLM's mitigation measures, the following terms and conditions shall be implemented:

a. Prior to issuance of right-of-way permit, Idaho Power shall transfer $28,792 into an account administered by Clark County, as offsite mitigation for the destruction of desert tortoise habitat within the project boundaries. The mitigation rate is based on $295 per acre, multiplied by a compensation value of 4, multiplied by 24.4 acres of short-term disturbance of desert tortoise habitat, but will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index beginning January 1, 1994. These funds shall be directly deposited into Desert Tortoise Habitat Conservation Fund Number 236-8290 administered by Clark County for the purpose of securing TMAs, habitat enhancement, and desert tortoise research. None of these funds shall be used to develop a HCP. These funds are independent of any other fees collected by the county for desert tortoise conservation planning. These funds shall be held in an interest-bearing account, and the accrued interest also shall be expended on desert tortoise conservation measures. All section 7 funds shall be expended only at the direction of the Service.

   Total payment must be made prior to issuance of right-of-way for BLM and Idaho Power to be in compliance with the provisions of the Act. Payment,

if made directly, shall be by certified check or money order payable to Clark County, and delivered to:

Clark County
Department of Administrative Services
225 Bridger Avenue, 6th Floor
Las Vegas, Nevada 89155
(702) 455-3530

The payment, whether made directly or transferred under an interlocal agreement, shall be accompanied by a cover letter from the project proponent that identifies the project and biological opinion that is requiring the payment, the amount of payment enclosed, and the number of the check or money order. The cover letter shall also identify the name and address of the project proponent, the name and address of the Federal agency responsible for authorizing the project, and the address of the Service office issuing the biological opinion. This information will be used to notify the project proponent, the authorizing Federal agency, and the Service that the payment has been received.

b. Idaho Power shall patrol the transmission line by helicopter. Any maintenance by vehicle shall require rehabilitation of the vehicle trail upon completion of the maintenance activity. Rehabilitation will be conducted according to a Service approved Construction, Operations, and Maintenance Plan identified in BLM mitigation measure 3.

4. To implement Reasonable and Prudent Measure number 4, BLM shall fully implement mitigation measures 4, 19, 20, 26, and 29 from the *Description of the Proposed Action*.

In addition, to BLM's mitigation measure 19, the following shall be added to their measure:

BLM shall designate a representative responsible for overseeing compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this Biological Opinion. The designated representative shall provide coordination among BLM, Idaho Power, and the Service.

In addition, to BLM's mitigation measure 20, the following shall be added to their measure:

> The program shall also be presented to all supervisory personnel and personnel associated with maintenance activities in desert tortoise habitat. All such personnel shall also be informed of the terms and conditions included in this Biological Opinion. All such persons shall sign a statement indicating that they have completed the educational program and understand fully its provisions and the terms and conditions included in this Biological Opinion.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the anticipated incidental take that may result from the proposed action. With implementation of these measures, the Service believes that no more than 95 desert tortoises may be incidentally taken (5 killed or injured and 90 harassed) and 379.7 acres of desert tortoise habitat may be destroyed. If, during the course of the action, the level of incidental take identified is exceeded, reinitiation of consultation will be required. BLM must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

Reporting Requirements

Upon locating a dead, injured, or sick endangered or threatened species, initial notification must be made to the Service's Division of Law Enforcement, Special Agent Edward Dominguez, in Las Vegas, Nevada, at telephone number (702) 388-6380. Care should be taken in handling sick or injured desert tortoises to ensure effective treatment and care or the 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 sick or injured desert tortoises or preservation of biological materials from a dead animal, the finder has the responsibility to carry out instructions provided by the Law Enforcement Division to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

Sick or injured desert tortoises shall be delivered to any qualified veterinarian for appropriate treatment or disposal. 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. Should no institutions want the desert tortoise specimens, or if it is determined that they are too damaged (crushed, spoiled, etc.) for preparation as a museum specimen, then they may be buried away from the project area

or cremated. The applicant or project proponent shall bear the cost of any required treatment of injured desert tortoises, euthanasia of sick desert tortoises, or cremation of dead desert tortoises. Should sick or injured desert tortoises be treated by a veterinarian and survive, they may be transferred as directed by the Service.

Conservation Recommendations

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. The term "conservation recommendations" has been defined as Service suggestions regarding discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat or regarding the development of information.

> The Service recommends that BLM in cooperation with Idaho Power conduct a long-term study to determine if the effects of audible noise and electrostatic and electromagnetic fields generated by SWIP transmission project on desert tortoises living in Coyote Spring Valley.

In order for the Service to be kept informed of actions that either minimize or avoid adverse effects or that benefit listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

Reinitiation Requirement

This concludes formal consultation on the actions outlined in the December 23, 1992, request. As required by 50 CFR § 402.16, reinitiation of formal consultation is required 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 that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

The designation of the Mormon Mesa Desert Wildlife Management Area and/or the designation of the Coyote Spring Tortoise Management Area may provide significant new information that warrants reinitiation of consultation. In instances where the amount or extent of incidental take is exceeded, any operations that are causing such take must be stopped in the interim period between the initiation and completion of the

new consultation if any additional taking is likely to occur.

We appreciate the assistance and cooperation of your staff throughout this consultation process. If we can be of any further assistance, please contact me or Mark Maley at (702) 784-5227.

for David L. Harlow

Attachment

cc:
Idaho Power Company, Boise, Idaho (Attn: Patrick Hasenoehrl)
District Manager, Las Vegas District, Bureau of Land Management, Las Vegas, Nevada (Attn: Sid Slone) (w/atch)
Operations Services Coordinator, Administrative Services, Clark County, Las Vegas, Nevada
Desert Tortoise HCP Coordinator, The Nature Conservancy, Las Vegas, Nevada
Director, Nevada Department of Wildlife, Reno, Nevada
Regional Manager, Nevada Department of Wildlife, Las Vegas, Nevada
State Director, Nevada State Office, Bureau of Land Management, Reno, Nevada
Chief, Division of Endangered Species, Fish and Wildlife Service, Arlington, Virginia
Senior Resident Agent, Division of Law Enforcement, Fish and Wildlife Service, Reno, Nevada
Special Agent, Division of Law Enforcement, Fish and Wildlife Service, Las Vegas, Nevada
Assistant Regional Director, Ecological Services, Fish and Wildlife Service, Portland, Oregon (Attn: Richard Hill)
(all w/o atch)

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ATTACHMENT

DESERT TORTOISE HANDLING AND OVERWINTERING PROCEDURES

(Note: Much of the information contained herein was obtained from Chapter III, Protocols for Handling Live Tortoises, in the Interim Techniques Handbook for Collecting and Analyzing Data on Desert Tortoise Populations and Habitats. This handbook is a cooperative effort among federal and state agencies. Primary editor is Dr. Cecil Schwalbe of the University of Arizona, Tucson, Arizona. The information on handling tortoise eggs was developed by the Reno Field Station in consultation with Dr. Schwalbe, Betty Burge of Las Vegas, Nevada, and the Service's Ventura Field Office.)

1. All desert tortoises shall be handled in a careful manner. This includes lifting the animal slowly, fully supporting the animal in an upright position, and completing various measurements in the minimum amount of time. A tortoise can be damaged or die of intestinal torsion. If a tortoise must be turned over on its back, this should be done gently. The fieldworker shall turn the tortoise over by carefully rolling it over on its side to its back, and return the tortoise to the upright position by rolling it back in the same direction. The tortoise shall not be rolled end over end, side over side, or spun.

   Tortoises, especially females, may be fatally damaged by blows, butting, or overturning, which results in egg yolk peritonitis brought on by seepage of egg yolk or breakage of shelled eggs into the peritoneal cavity. Handling of potentially gravid females shall be done very carefully.

   To prevent hyperthermia, on warm days a tortoise must be kept in the shade (of the fieldworker, a pack, other equipment, etc.) except during photography. Tortoises shall not be weighed, measured, etc. when air temperatures exceed 90°F (32°C) at 1.5 m (4.9 ft) above ground unless measures are taken to insure the animal does not overheat. Tortoises shall be placed in shaded areas during handling, and if the animal is to be held for a longer period, it shall be individually placed in a sterile cardboard box, placed in a shaded, cool location and returned to the site of capture or relocation at sunrise on the following day. CAUTION! TEMPERATURES ARE MUCH HIGHER NEARER THE GROUND. Take extreme caution to avoid overheating a tortoise whenever surface temperatures exceed 86°F (30°C). Shield the bulb of the thermometer from direct solar radiation and wind when measuring temperatures.

2. Because of the threat of Upper Respiratory Tract Disease (URTD), all tortoises shall be handled so as to minimize the chances of spreading the disease, even if URTD has not been documented in a given locality. All personnel handling tortoises must be initially trained using protocols developed by Dr. Cecil Schwalbe of the University of Arizona. These protocols will be used to minimize the spread of URTD. All personnel handling tortoises shall wear disposable latex or plastic gloves to prevent transmission of diseases among tortoises. Not more than one tortoise shall be handled with each pair of gloves.

   All equipment that comes in contact with any tortoise shall be sterilized before it is used on another tortoise. For example, triangular files for notching, calipers for measuring shell length, rules, and other equipment should be sterilized by soaking in 95% isopropyl or ethyl alcohol for at least 20 minutes before using on another tortoise. A 25% solution of chlorine bleach may also be used, but bleach is extremely corrosive and may damage many types of equipment. Wooden rules should not be used; they are difficult to sterilize because of the porosity of the wood. Use metal or plastic rules instead.

   To avoid sterilizing spring scales or weighing straps prior to weighing each tortoise, use individual "T-shirt" bags, the plastic bags with two handles that are used to bag groceries. The handles of the bag can be used to suspend the tortoise during weighing.

   The fieldworker's clothes shall be changed completely, including shoes, before visiting other tortoise sites. Dr. Schwalbe defines a site as follows: "As a general rule, a single valley or desert mountain range would be considered one site, unless there were special circumstances, such as URTD confirmed in one part of a valley, but not thought to occur in other parts of that valley. In such an instance, a change of clothes would be necessary before visiting other parts of that valley." Always visit the site with known occurrence of URTD last to minimize the chance of spreading the disease. Vehicle undercarriages and tires shall be washed when travelling between sites where URTD is known or suspected to occur. The fieldworker is not required to wash vehicles if there are no confirmed reports of URTD on a study site. The fieldworker shall consider that wet soil carrying microbes will adhere to vehicles, and such microbes are less likely to die before a new study area is visited. It is advisable to wash a vehicle after driving in wet soil if feasible.

When transported by vehicle or confined, each tortoise shall be contained in a newly-purchased, clean cardboard box of an appropriate size. Boxes shall be discarded after use. Tortoises shall never be placed in automobile trunks or on floorboards in an unconfined manner. Tortoises shall never be placed in the bed of a truck over the catalytic converter as this area of the metal bed may become extremely hot. Tortoises must not be left unattended in vehicles; this measure is intended to eliminate accidental mortality caused by overheating. Truck beds and floorboards must be padded and travel shall be at speeds which eliminate unnecessary vibrations.

3. Tortoises removed from the project area and released into the wild as a result of mitigation measures for this project shall not be individually marked, except for those hibernating tortoises removed temporarily as specified under Procedure number 6 below. These tortoises shall be marked per Bureau of Land Management (BLM) standards (Attachment A-1). Tagging is the current preferred method for long-term marking and is supplemented with photographs and drawings. All three methods should be used to insure that over time the tortoise can be properly identified in future years.

   Tagging: Tagging was originally used in 1977 and appears to be as effective or better than notching for a long-term marking technique. Place a small dot of white paint or a small piece of heavy white paper (card stock) on the fourth left costal scute; wait for the paint to dry. Write the identifying number for that tortoise on the dry dot or paper using permanent black ink. Wait for the ink to dry and cover the dot or paper and the ink with quick-drying clear epoxy. Note that the epoxy shall not touch the suture lines between the scutes. Numbers shall not be placed in the middle of the scute as this area may be sloughed or rubbed depending on the age of the tortoise and habitat in which it occurs.

   In addition a photograph (35mm slide) of the carapace and fourth left costal scute shall be taken. If possible dust off the tortoise with a small brush to remove mud or dust from the scutes. Remember the brush must be either sterilized or disposed of after each use. Place a small piece of white paper (16 mm x 90 mm) on the edge of the shell with information on the study site name, date, and tortoise number. The tortoise shell area and fourth costal scute shall fill the slide frame. Drawings shall be made showing any anomalies (e.g., extra or missing marginal, costal, or vertebral scutes) or injuries (e.g., punctures holes from canines, tooth scrapes).

The responsible Federal Agency shall develop its own cataloging format to enable it and others to track tortoises handled as a result of development projects.

4. A standard data sheet should be developed to record the following information:
   A. Name of person collecting the animal.
   B. Exact location and date of collection.
   C. The individual number assigned to that animal.
   D. The over-wintering location of the tortoise.
   E. The release site and date of release of the animal.
   F. Health condition of the tortoise, including measured weight and length at initial capture and release. In addition to this information complete the URTD checklist (Attachments A-2 & A-3).
   G. Photographs of carapace, plastron, and fourth left costal scute.
   H. The information specified in 4.A. through 4.G. must be supplied to the responsible Federal agency and the Fish and Wildlife Service (Service) immediately after cessation of both tortoise clearing and release activities. The information shall be provided in the form of a report accompanied by data sheets.

5. Tortoises found actively moving on the surface, and to be removed from the project site, shall be released between 150 and 1000 feet from the outer boundary of the project area nearest the capture point. Relocated tortoises shall be placed under a shrub in the shade. Tortoises shall be monitored at the release site until they are exhibiting normal behavior. Should the capture occur late in the day so the animal will not have sufficient time to find a suitable burrow for the night, the tortoise shall be placed in a clean cardboard box as described above and held in an appropriate place safe from predators and danger of hyperthermia, until release can occur in the morning.

6. If tortoises found in burrows, and to be removed from the project site and released into the wild, are removed from burrows between November 1 and March 15, they shall be transported in cardboard boxes to the approved over-wintering site. Each tortoise shall be placed in an artificial burrow within a fenced enclosure with one tortoise per enclosure. Each enclosure must be separate from adjacent pens so that one tortoise can not place its head or limbs through the fence and physically contact a tortoise in an adjacent enclosure. Fencing does not need to be buried but shall be stable enough to preclude escape.

The main chamber of the burrow shall be constructed of plywood and the roof placed approximately 2.5 feet below the soil surface. The burrow's tunnel shall be eight to 10 feet long with a gentle slope (e.g., about 4:1). The tunnel shall be stabilized on the top with PVC pipe cut in half. The pipe shall be no smaller than 15 inch in diameter and soil shall be used to adjust tunnel to tortoise size. After placement of the tortoise in the burrow, the entrance of the tunnel shall be partially blocked with loose topsoil.

If any tortoise excavated is underweight, as determined by comparison to regressions developed by Dr. Michael Weinstein for the tortoises at the Honda project, the tortoise shall be placed in a room at a temperature of 90° to 100°F and allowed to soak in fresh water for two to three hours. After rehydration and drying, the tortoise shall be cooled to hibernation temperature slowly and placed in an artificial burrow. This procedure shall be implemented only by persons instructed in this manner of treatment.

Beginning in February, activity of the tortoises within the artificial burrows shall be monitored to determine an appropriate release time. Tortoises shall be released in the morning hours when temperatures are conducive to activity. The appropriate time for release will probably occur in the third week of March.

Each tortoise shall be released between 150 and 1000 feet from the outer boundary of the project area nearest the capture point. Released tortoises shall be placed under a shrub in the shade. Releases shall occur at a temperature that is suitable for activity, with reasonable expectation that the temperature will remain within the tortoise's thermal preference long enough for the tortoise to adjust to its surroundings. Tortoises shall be monitored at the release site until they are exhibiting normal behavior. To facilitate this measure, each tortoise must be accompanied by one of the approved biologists. There shall be no mass releases of animals.

7. Tortoise eggs shall be moved to artificial nests either in the wild or at an approved facility. Biologists must receive special training in the procedures outlined below, but such training can be obtained after a nest is actually found. If this is done, the nest shall be carefully covered with soil so as not to move the eggs and protected until on site training is provided. The responsible Federal agency shall ensure that this training is made available.

Any nest that is found shall be carefully excavated by hand at a time of day when the air temperature 6 inches above the ground is approximately equal to the soil temperature at egg level. Immediately upon finding a nest, large tool use shall be discontinued and the nest excavated by the biologist using his or her hands. Before disturbance of nest contents, each egg shall be gently marked with a small dot on the top using a felt-tipped pen to establish the egg's orientation in the nest. In handling nest contents, eggs must be maintained in this orientation at all times. Because egg shells become extremely fragile in the last few weeks before hatching, special care shall be taken with eggs found from August to mid-October. Because these eggs are very fragile, some may break during handling. This will be lethal to egg contents. Such an accident can be expected to occur until techniques are developed to avoid this type of incident. Broken eggs shall be buried nearby and left in the field, or the contents preserved and provided to qualified researchers.

The biologist shall measure and record the depth of the nest below the soil surface, the location of the nest in relation to any adjacent shrub (i.e., whether on the north, south, east, or west side of the shrub), the species of shrub and its approximate foliage volume, and the soil type. Place approximately one inch of soil from the nest area in a bucket and carefully transfer the eggs to the bucket, maintaining egg orientation. Cover the eggs with soil that is free of cobbles and pebbles, to a depth equivalent to that in the original nest.

If good tortoise habitat is available in the general area, the eggs shall be relocated between 150 to 1,000 feet from outer boundary of the project site. Prepare a nest with the same depth, orientation, location in relation to a specific shrub species, and in the same soil type as the original nest. Carefully transfer the eggs, maintaining their original orientation, to the new nest. The eggs shall be replaced so that they touch one another. Gently cover with soil from which cobbles and pebbles have been removed so that all the air spaces around the eggs are filled. Relocated nests in the wild shall be monitored by a qualified biologist. The monitoring program shall be developed in consultation with the Service.

If a suitable site for a new nest is not available in the wild, the eggs shall be prepared for incubation in a suitable holding facility. Place a small amount of soil in a bucket and transfer the eggs to the bucket using the technique specified above, making sure the eggs are touching one another. Carefully fill the bucket to the

depth of the original nest, but leave the top of the soil layer 3 inches below the rim of the bucket so that future hatchlings cannot escape. Bury the bucket in soil in a safe location at an approved holding facility.

The biologist shall record in detail all the procedures used in moving eggs. Personnel caring for incubating eggs at a facility shall maintain a record of where the eggs were found, method of incubation, length of time and conditions under which the eggs were incubated, observations of eggs during the incubation period, information about hatchling health and behavior, and disposition of the hatchlings.

8. Should any deviation from the procedures outlined above be necessary, the approved biologist shall contact the Fish and Wildlife Service as soon as possible.

9. A final report, containing all the information noted above and including release information, must be supplied to the Service and the responsible Federal agency within one month of the final releases or disposition of tortoises.