Appendix B-4
2010 Raptor Survey

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ELDORADO-IVANPAH TRANSMISSION PROJECT

2010 RAPTOR SURVEY

Prepared for
Southern California Edison

Prepared by
EPG, Inc.

May 2010

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RAPTOR SURVEYS ON THE ELDORADO TO IVANPAH TRANSMISSION PROJECT

INTRODUCTION

EPG, Inc. performed surveys for the presence of raptors and evidence of nests on the existing Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115 kilovolt (kV) transmission line between the Eldorado substation and the proposed Ivanpah substation, the Eldorado-Lugo 500kV transmission line and on several transmission and telecommunication alternative routes. The existing 115kV transmission route is part of the preferred Eldorado-Ivanpah Transmission Project (EITP). A segment of the Eldorado-Lugo transmission line will be used to support a secondary telecommunications line consisting of an optical fiber ground wire (OPGW). This survey area is between the Eldorado substation and Nipton, California.

Part of an alternative route, EITP alternative A (EITP Alt. A) was surveyed and follows, in part, the Los Angeles Department of Water and Power (LADWP) utility corridor west of the Eldorado substation to the intersection of the Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115kV transmission line. Observations were also made on the Nipton 33kV distribution line in the Mountain Pass (Mtn. Pass) area as part of the telecommunication alternatives.

The surveys were requested by the U.S. Bureau of Land Management (BLM) as a part of compliance with the Migratory Bird Treaty Act of 1918 (MBTA) for the Eldorado to Ivanpah Transmission Project. The MBTA is administered by the U.S. Fish and Wildlife Service (USFWS), and prohibits take of or trade in most bird species native to the United States, including their eggs and nests. Raptors often use transmission structures as foraging or resting perches, as well as substrates for nesting. Nests may be maintained and used for multiple years or even decades, creating potential conflicts with maintenance activities on those structures (Arizona Power Line Interaction Committee 2006).

Additional laws protecting some raptors in the project area include the Bald and Golden Eagle Protection Act of 1940 (BGEPA), and the Endangered Species Act of 1973 (ESA), as amended. Amendments to the BGEPA set limits and guidelines relating to take of nests and disturbance of eagles using human-made structures (USFWS 2009). The ESA prohibits harassment and destruction of habitat as well as take. No bird species listed under the ESA were observed or are expected to occur in the project area.

Southern California Edison will remove approximately 36 miles of the existing 115 kV transmission line between the existing Eldorado Substation in the Eldorado Valley of southern Nevada and the proposed Ivanpah Substation in the Ivanpah Valley in California. The 115 kV line will be replaced with a 220kV line, allowing power delivery from the proposed Ivanpah Solar Electric Generating System. Alternative routes for telecommunications associated with the project include retrofitting existing distribution lines or a portion of the Eldorado-Lugo transmission line in Nevada.

METHODS

EPG, Inc. surveyed portions of the project area requested by the BLM, including the Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115kV transmission line between Primm, Nevada, and the Eldorado Substation; the Eldorado-Lugo line between the Eldorado Substation and Nevada State Route 164; and the vicinity of the Mountain Pass Substation (Figure 1). The McCullough Pass area (2 to 3 kilometers south of the project) was also included in the survey effort, due to its proximity to the project alignment and the presence of additional transmission line structures that could be attractive to raptors in the area.

Two EPG biologists traveled the transmission line access roads by vehicle, visually surveying for raptors on or near the transmission structures for the affected lines as well as adjacent lines, and for any evidence of nesting in the transmission structures or nearby cliffs. The surveyors would leave the vehicles to visually scan and listen for raptors in areas of high relief, high cover, or poor visibility such as in mountain passes. The surveyors were also alert for the presence of the

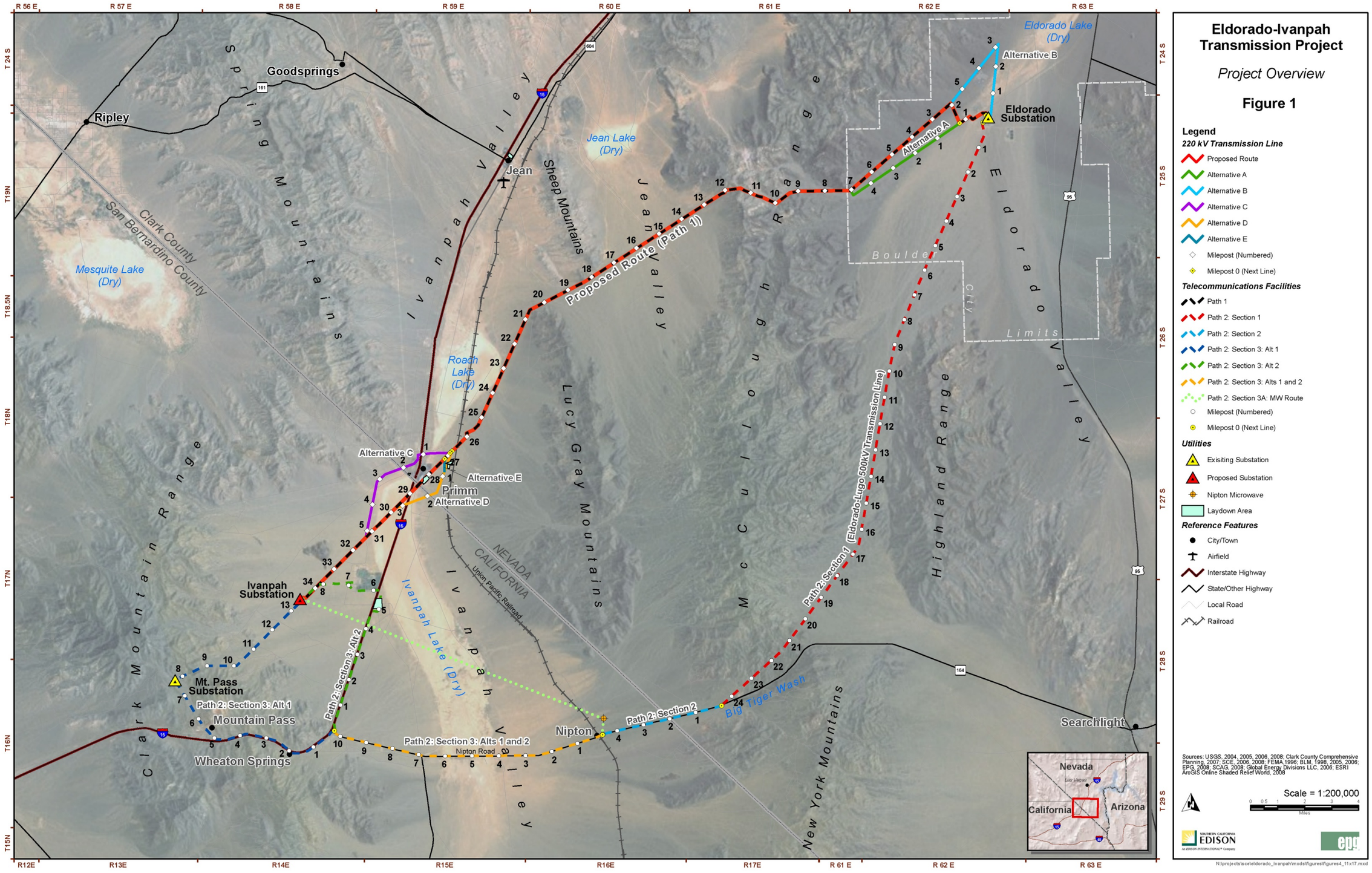


Figure 1 Project Overview

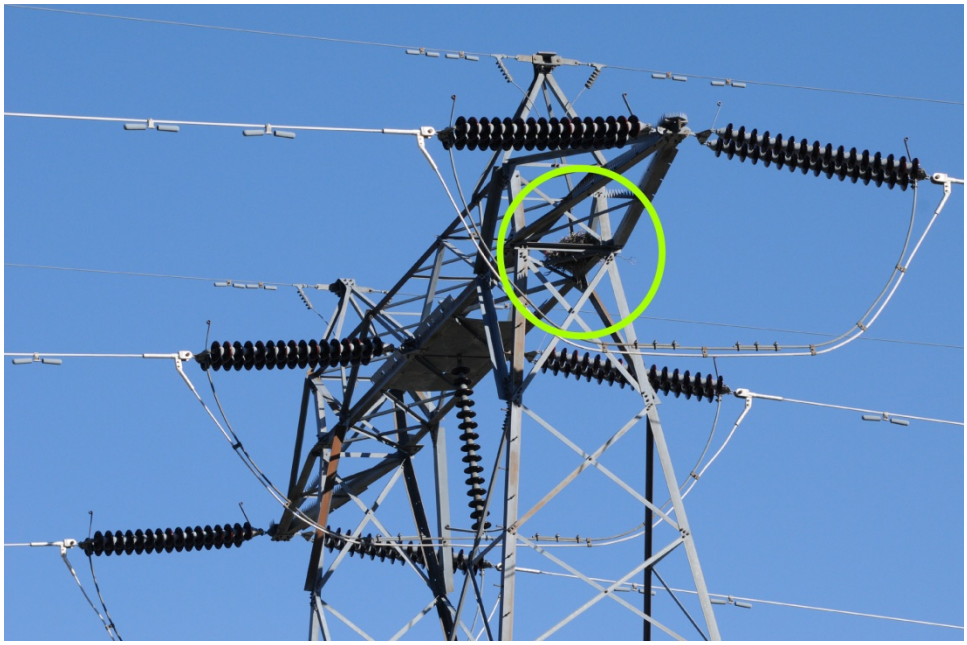
Western Burrowing Owl (*Athene cunicularia hypugaea*), which is known to be present in the Ivanpah Valley and could occur anywhere along the project alignments in areas of suitable habitat. No Western Burrowing Owls were observed during any of the survey activities. Locations of raptors observed were recorded on a handheld Garmin GPS (60CSx) unit, using the UTM NAD 83 datum (Table 1). Surveys were conducted on January 13 and 14, April 7 and 8, and May 2 and 3, 2010.

Table 1 Raptor sightings on the Eldorado to Ivanpah and Eldorado to Lugo Transmission Lines

Date	Species	UTM E	UTM N	Zone	Time	Route, Notes
January 13	Peregrine Falcon	647317	3942722	11N	0920	EITP, Perched on tower
January 13	Red-tailed Hawk	649035	3944784	11N	0952	EITP, Perched on tower
January 13	Golden Eagle	679203	3960009	11N	1300	OPGW, Perched on tower
January 14	Red-tailed Hawk	676854	3961739	11N	1020	EITP Alt. A, Flying
January 14	Nest	667813	3931284	11N	1136	OPGW, Unused, poor condition
April 7	Red-tailed Hawk	677944	3962515	11N	1138	EITP Alt. A, Perched on tower
April 7	Red-tailed Hawk	671752	3936635	11N	1414	OPGW, Flying
April 7	American Kestrel	631759	3926644	11N	1521	Mtn. Pass, Perched on fence south of substation
April 8	Red-tailed Hawk	657010	3953583	11N	0910	LADWP, Perched on tower
April 8	American Kestrel	660195	3954801	11N	0930	LADWP, Perched on *Yucca schidigera*
April 8	Red-tailed Hawk (pair)	662827	3955740	11N	0955	LADWP, Flying
April 8	Red-tailed Hawk (pair)	663100	3955530	11N	1000	LADWP, Flying
April 8	Red-tailed Hawk	666895	3956548	11N	1110	LADWP, Flying
April 8	Prairie Falcon	678660	3962978	11N	1325	EITP, Perched on tower with prey
April 8	Red-tailed Hawk	674720	3950200	11N	1430	OPGW, Flying
April 8	Red-tailed Hawk	673968	3946132	11N	1503	OPGW, Flying
April 8	Red-tailed Hawk	670250	3935057	11N	1548	OPGW, Flying
April 8	Cooper's Hawk	668387	3932184	11N	1602	OPGW, Flying
April 8	Red-tailed Hawk	667600	3930923	11N	1610	OPGW, Flying
April 8	Red-tailed Hawk	631275	3929360	11N	1655	OPGW, Flying
May 2	No raptors identified	----	----	----	----	----
May 3	Red-tailed Hawk (pair)	655763	3953200	11N	0905	LADWP, Flying
May 3	Red-tailed Hawk	658621	3955221	11N	0920	EITP, Perched on tower
May 3	Red-tailed Hawk	659643	355830	11N	0934	EITP, Perched on tower

RESULTS

No evidence of current nesting was detected in nearly all of the project area, either on or off the transmission structures. One deteriorated stick nest was observed on the transmission line east of the Eldorado-Lugo line during the January survey. The nest was revisited in May, and appeared to have been maintained (Photograph 1 and Photograph 2). Two Common Ravens (*Corvus corax*) were seen circling the nest area together in May, but did not land on the nest.



Photograph 1 Stick nest in top of lattice tower at UTM NAD 83 E 667813 N 3931284.

Photograph 2 Close-up of stick nest shown in Photograph 1.

Their behavior (calling and attendance in the area) during our presence leads us to suspect the nest was possibly theirs. One Cooper's Hawk (*Accipiter cooperi*) and one Red-tailed Hawk (*Buteo jamaicensis*) were also observed within 1 mile of the inactive nest during the April survey, but no evidence of association with the nest was observed. The nest appeared to be smaller than most raptor nests, and was more likely to have been constructed by the Common Raven than any of the larger raptor species known to nest in the area.

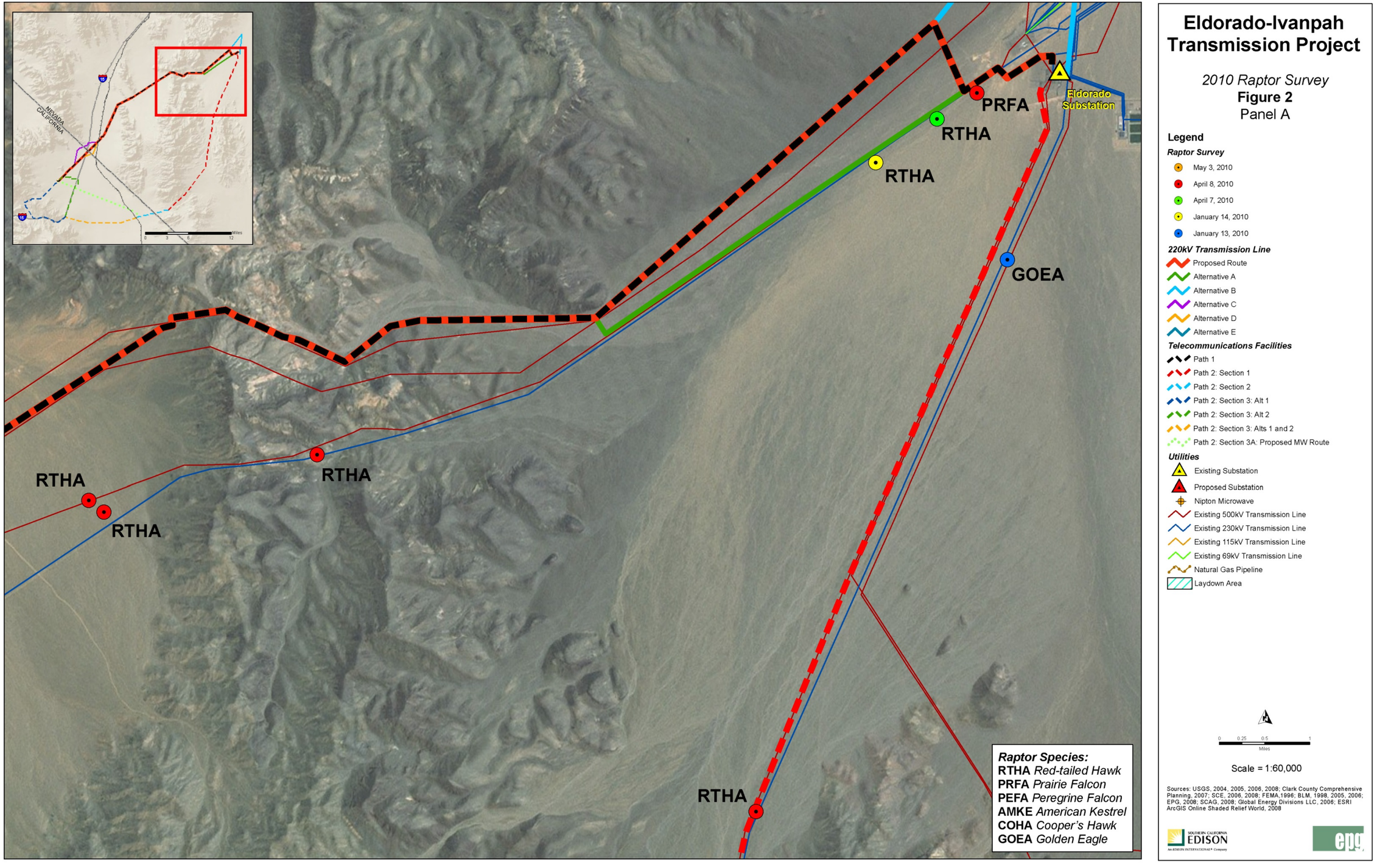
Six raptor species were observed in 22 independent sightings: the Cooper's and Red-tailed Hawks previously mentioned, American Kestrel (*Falco sparverius*), Prairie Falcon (*Falco mexicanus*), Peregrine Falcon (*Falco peregrinus*), and Golden Eagle (*Aquila chrysaetos*) (Table 1; Figure 2, Panels A–D). Moderate winds during four of the six survey days may have depressed activity of either raptors or their prey, as the majority of sightings were from a single day (Table 2). All raptors observed from the access road are included, with the exception of a single unidentified raptor flying at a distance too great to allow identification. Three sightings involved separate pairs of Red-tailed Hawks seen flying together near the base of the western slope of the McCullough Range, although there was no other indication of the hawks potentially being mated pairs. All other sightings were of individual hawks not in proximity to others. Additional sign of potential raptor activity in the project area included areas of whitewash high on cliffs on the north side of the ("North") McCullough Pass, through which the EITP project alignment passes. No raptors were observed in this area during any of the survey days.

RECOMMENDATIONS

As no nests were observed in transmission structures or nearby where construction-related disturbance would occur on the Eldorado-Baker-Coolwater-Dunn Siding-Mountain Pass 115kV transmission line, that portion of the project is not likely to require mitigation under the MBTA related to nesting raptors or other birds using transmission structures at present. The single possibly active nest was located in a lattice tower on the line adjacent to the Eldorado-Lugo transmission line (Figure 2, Panel D), is attributed to use by Common Ravens, and would not likely require removal prior to the addition of the telecommunication line. If the nest is confirmed to be active, timing construction in that area to occur outside of nesting season would provide sufficient mitigation. We recommend a final pre-construction clearance survey within 10 days of construction activities occurring during the nesting season to ensure that no new nest construction has occurred.

A single Golden Eagle was observed perched on a lattice tower in the project area, but as no nests were observed, no mitigation is required at this time under the BGEPA. The eagle was sighted on the Eldorado-Lugo line, which will only receive an additional telecommunication line and not be completely rebuilt, although approximately half of the transmission towers will require structural retrofitting. Although individual eagles may avoid the project area during construction, construction activities would not likely meet the definition of "disturb" prohibited under the BGEPA, given the numerous other transmission lines present to provide perches throughout the project vicinity and the extent of contiguous habitat. Prohibited disturbance of a non-nesting eagle is that which causes or is likely to cause injury or "a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior" (USFWS 2009).

No raptor species listed under the ESA were observed during the survey. A single Peregrine Falcon was observed in the project area near Primm, Nevada. Peregrine Falcons were listed under the ESA, but recovered and were delisted in 1999 (USFWS 1999). Post-delisting monitoring is required under the ESA, and will continue for the Peregrine Falcon until at least 2015 (USFWS 2003), but no actions relating to this project are mandated under the ESA or the monitoring plan for the species.



Eldorado-Ivanpah Transmission Project

2010 Raptor Survey
Figure 2
Panel A

Legend

Raptor Survey
- May 3, 2010
- April 8, 2010
- April 7, 2010
- January 14, 2010
- January 13, 2010

220kV Transmission Line
- Proposed Route
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- Alternative E

Telecommunications Facilities
- Path 1
- Path 2: Section 1
- Path 2: Section 2
- Path 2: Section 3: Alt 1
- Path 2: Section 3: Alt 2
- Path 2: Section 3: Alts 1 and 2
- Path 2: Section 3A: Proposed MW Route

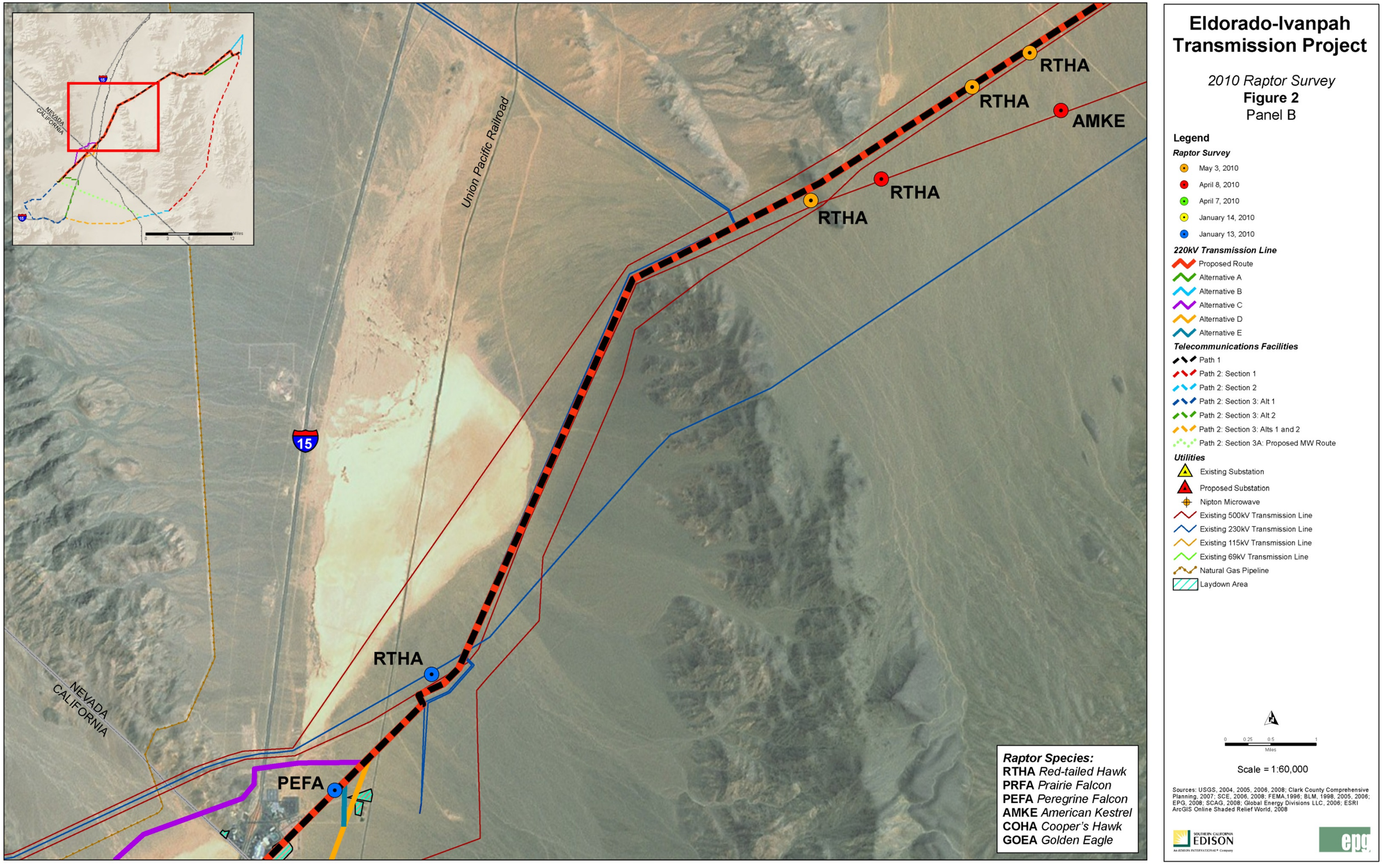
Utilities
- Existing Substation
- Proposed Substation
- Nipton Microwave
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Existing 69kV Transmission Line
- Natural Gas Pipeline
- Laydown Area

0 0.25 0.5 1
Miles

Scale = 1:60,000

Sources: USGS, 2004, 2005, 2006, 2008; Clark County Comprehensive Planning, 2007; SCE, 2006, 2008; FEMA,1996; BLM, 1998, 2005, 2006; EPG, 2008; SCAG, 2008; Global Energy Divisions LLC, 2006; ESRI ArcGIS Online Shaded Relief World, 2008

Figure 2 Panel A



Eldorado-Ivanpah Transmission Project

2010 Raptor Survey
Figure 2
Panel B

Legend

Raptor Survey
- May 3, 2010
- April 8, 2010
- April 7, 2010
- January 14, 2010
- January 13, 2010

220kV Transmission Line
- Proposed Route
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- Alternative E

Telecommunications Facilities
- Path 1
- Path 2: Section 1
- Path 2: Section 2
- Path 2: Section 3: Alt 1
- Path 2: Section 3: Alt 2
- Path 2: Section 3: Alts 1 and 2
- Path 2: Section 3A: Proposed MW Route

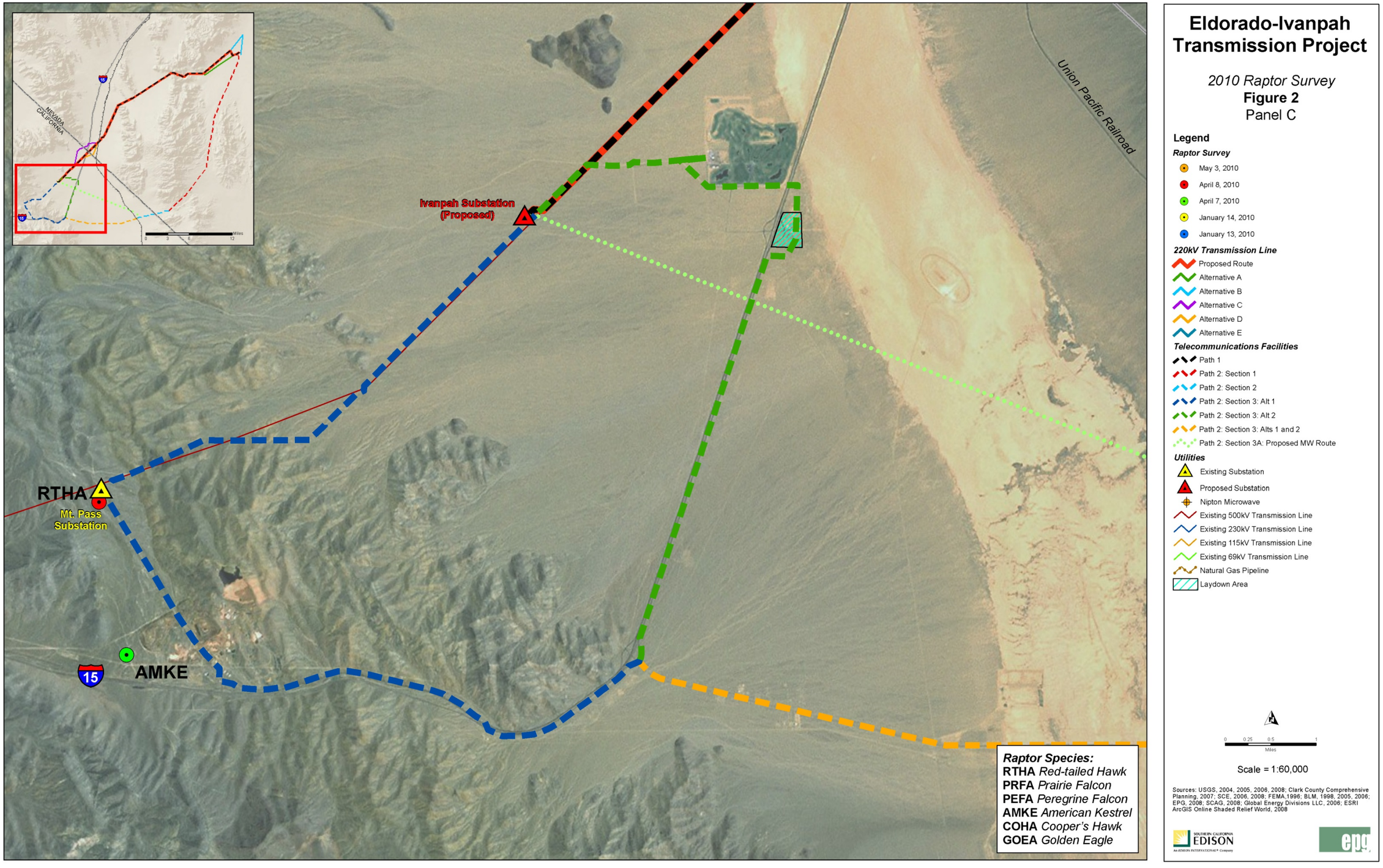
Utilities
- Existing Substation
- Proposed Substation
- Nipton Microwave
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Existing 69kV Transmission Line
- Natural Gas Pipeline
- Laydown Area

0 0.25 0.5 1 Miles

Scale = 1:60,000

Sources: USGS, 2004, 2005, 2006, 2008; Clark County Comprehensive Planning, 2007; SCE, 2006, 2008; FEMA,1996; BLM, 1998, 2005, 2006; EPG, 2008; SCAG, 2008; Global Energy Divisions LLC, 2006; ESRI ArcGIS Online Shaded Relief World, 2008

Figure 2 Panel B



Eldorado-Ivanpah Transmission Project

2010 Raptor Survey
Figure 2
Panel C

Legend

Raptor Survey
- May 3, 2010
- April 8, 2010
- April 7, 2010
- January 14, 2010
- January 13, 2010

220kV Transmission Line
- Proposed Route
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- Alternative E

Telecommunications Facilities
- Path 1
- Path 2: Section 1
- Path 2: Section 2
- Path 2: Section 3: Alt 1
- Path 2: Section 3: Alt 2
- Path 2: Section 3: Alts 1 and 2
- Path 2: Section 3A: Proposed MW Route

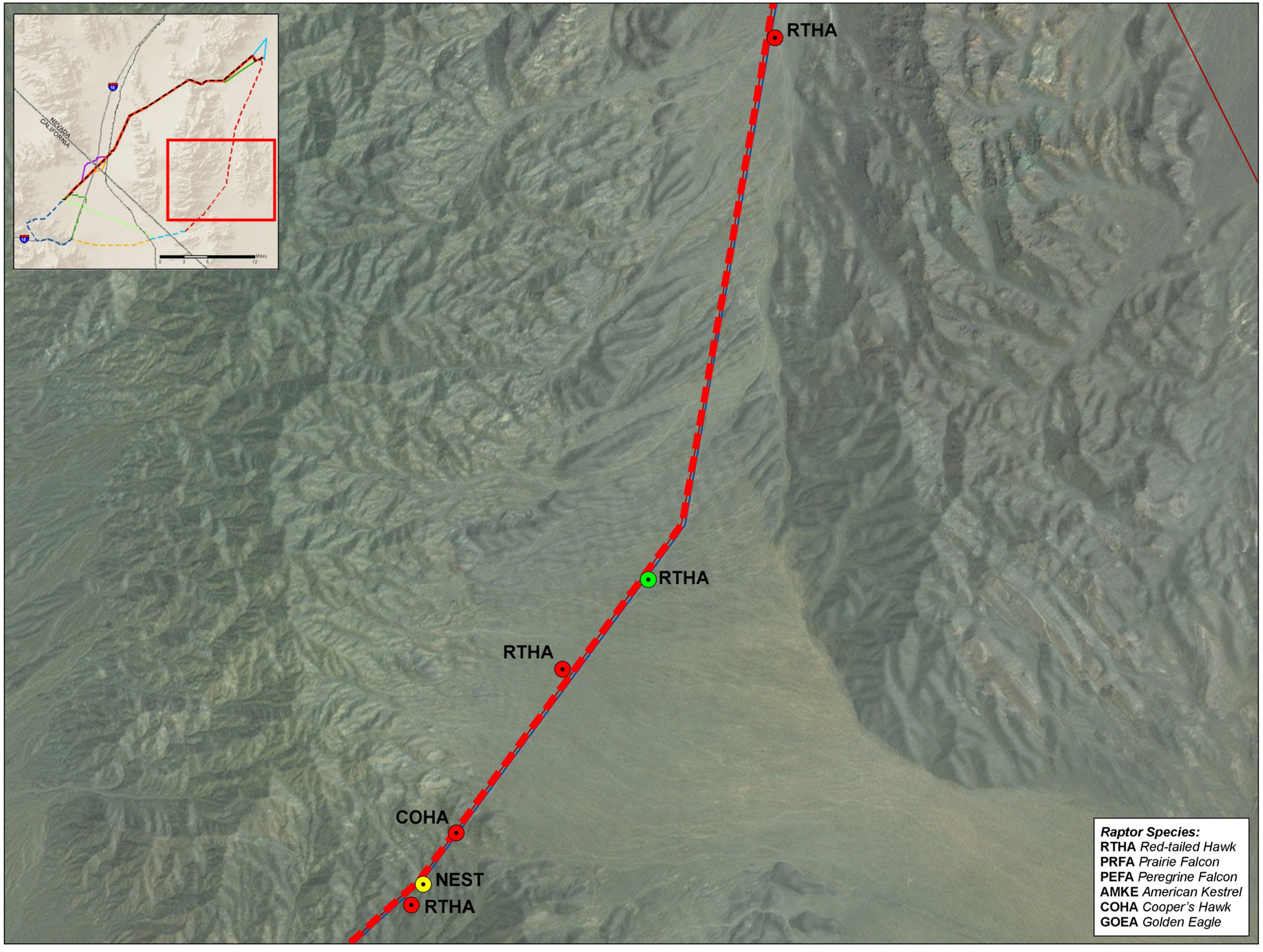
Utilities
- Existing Substation
- Proposed Substation
- Nipton Microwave
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Existing 69kV Transmission Line
- Natural Gas Pipeline
- Laydown Area

0 0.25 0.5 1
Miles

Scale = 1:60,000

Sources: USGS, 2004, 2005, 2006, 2008; Clark County Comprehensive Planning, 2007; SCE, 2006, 2008; FEMA,1996; BLM, 1998, 2005, 2006; EPG, 2008; SCAG, 2008; Global Energy Divisions LLC, 2006; ESRI ArcGIS Online Shaded Relief World, 2008

Figure 2 Panel C



Eldorado-Ivanpah Transmission Project

2010 Raptor Survey
Figure 2
Panel D

Legend

Raptor Survey
- May 3, 2010
- April 8, 2010
- April 7, 2010
- January 14, 2010
- January 13, 2010

220kV Transmission Line
- Proposed Route
- Alternative A
- Alternative B
- Alternative C
- Alternative D
- Alternative E

Telecommunications Facilities
- Path 1
- Path 2: Section 1
- Path 2: Section 2
- Path 2: Section 3: Alt 1
- Path 2: Section 3: Alt 2
- Path 2: Section 3: Alts 1 and 2
- Path 2: Section 3A: Proposed MW Route

Utilities
- Existing Substation
- Proposed Substation
- Nipton Microwave
- Existing 500kV Transmission Line
- Existing 230kV Transmission Line
- Existing 115kV Transmission Line
- Existing 69kV Transmission Line
- Natural Gas Pipeline
- Laydown Area

N

0 0.25 0.5 1
Miles

Scale = 1:65,000

Sources: USGS, 2004, 2005, 2006, 2008; Clark County Comprehensive Planning, 2007; SCE, 2006, 2008; FEMA,1996; BLM, 1998, 2005, 2006; EPG, 2008; SCAG, 2008; Global Energy Divisions LLC, 2006; ESRI ArcGIS Online Shaded Relief World, 2008

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Figure 2 Panel D

Table 2 Weather conditions during raptor surveys				
Date	**High temperature (F)**	**Wind (mph)**	**Cloud cover**	**Precipitation**
January 13, 2010	55	Up to 10	Mostly cloudy	Light rain early
January 14, 2010	60	Light increasing to 15	Clear	None
April 7, 2010	65	Windy, gusts >25	Clear	None
April 8, 2010	75	Calm, gusts <5	Clear	None
May 2, 2010	75	Breezy, gusts <20	Clear	None
May 3, 2010	85	Calm, gusts <5	Clear	None

REFERENCES

Avian Power Line Interaction Committee (APLIC).

2006 Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington D. C. and Sacramento, CA. 207 pp.

U.S. Fish and Wildlife Service.

2009 Eagle permits; take necessary to protect interests in particular localities. FR 74 (175): 46836-46879.

2003 Monitoring plan for the American Peregrine Falcon, a species recovered under the Endangered Species Act. U.S. Fish and Wildlife Service, Divisions of Endangered Species and Migratory Birds and State Programs, Pacific Region. Portland, Oregon. 53 pp.

1999 Final rule to remove the American Peregrine Falcon from the federal List of Endangered and Threatened Wildlife, and to remove the similarity of appearance provision for free-flying Peregrines in the conterminous United States. FR 64 (164): 46542-46558.