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# Inland Empire Energy Center

(01-AFC-17C)

## Request for Approval

Natural Gas Supply Pipeline Route

Submitted by

**Inland Empire Energy Center, LLC**

July 2005

**With Technical Assistance by**



2485 Natomas Park Drive  
Sacramento, California 95833

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# Acronyms and Abbreviations

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AFC	Application for Certification
APE	Area of Potential Effect
BRMIMP	Biological Resources Mitigation Implementation and Monitoring Plan
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CNDDDB	California Natural Diversity Data Base
Commission Decision	December 31, 2003 California Energy Commission Decision regarding the IEEC's license
CNPS	California Native Plant Society
CSC	California Species of Special Concern
GE	General Electric Company
HCP	Habitat Conservation Plan
IEEC	Inland Empire Energy Center
LORS	Laws, Ordinances, Regulations, and Standards
MW	Megawatt
MSHCP	Multi-Species Habitat Conservation Plan
NPDES	National Pollution Discharge Elimination System
PM <sub>10</sub>	Particulate matter less than 10 microns
SAA	Streambed Alteration Agreement
SCE	Southern California Edison
SKR	Stephens' kangaroo rat
SoCalGas	Southern California Gas Company
SRWQCB	State Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers

USFWS

U.S. Fish and Wildlife Service

USGS

U.S. Geological Survey

# Executive Summary

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The Inland Empire Energy Center, LLC, as project owner, requests the approval of the California Energy Commission (CEC or Commission) for a minor reroute of the proposed natural gas pipeline right-of-way.

Section 1 provides an overview of this project change and a review of the ownership of the project, the necessity for the proposed change, and the consistency of the changes with the Commission Decision certifying the facility. Section 2 provides a complete description of the proposed modifications. Section 3 assesses the potential environmental effects of the proposed changes in terms of 14 environmental discipline areas. This assessment indicates that approval of the reroute will not result in any significant, unmitigated adverse environmental impacts. Similarly, the project as amended will continue to comply with all applicable laws, ordinances, regulations and standards. The findings and conclusions contained in the December 22, 2003 Commission Decision granting certification of the IEEC are still applicable to the project, as amended. None of the Conditions of Certification in the Commission Decision require revisions to reflect the proposed project changes.

Financing is available for the project, with plans to begin construction as soon as all regulatory approvals are complete. Construction is planned to begin in August of 2005 in order to meet the summer loads of Southern California in 2008.

# 1.0 Introduction

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## 1.1 Overview

The Inland Empire Energy Center, LLC (the “Project Owner”) hereby requests approval) to include a new routing for a portion of the natural gas pipeline right-of-way that will provide fuel to the project site for Inland Empire Energy Center (IEEC) (01-AFC-17)

This request for approval contains all of the information that is required pursuant to CEC’s Siting Regulations (California Code of Regulations [CCR] Title 20, Section 1769, Post Certification Amendments and Changes). The information necessary to fulfill the requirements of Section 1769 is contained in Sections 1.0 through 6.0 as summarized in Table 1 below.

TABLE 1  
Informational Requirements for Post-Certification Amendments and Changes

<b>Section 1769 Requirement</b>	<b>Section of Petition Fulfilling Requirement</b>
(A) A complete description of the proposed modifications, including new language for any conditions that will be affected	Section 2.0—Proposed modifications  Sections 3.1 to 3.15—Proposed changes to conditions of certification, where necessary, are located at the end of each technical section
(B) A discussion of the necessity for the proposed modifications	Section 1.3
(C) If the modification is based on information that was known by the petitioner during the certification proceeding, an explanation why the issue was not raised at that time	Section 1.3
(D) If the modification is based on new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision, an explanation of why the change should be permitted	Sections 1.4, 3.1 to 3.16
(E) An analysis of the impacts the modification may have on the environment and proposed measures to mitigate any significant adverse impacts	Section 3.1 to 3.15
(F) A discussion of the impact of the modification on the facility's ability to comply with applicable laws, ordinances, regulations, and standards;	Section 3.1 to 3.16
(G) A discussion of how the modification affects the public	Section 4.0
(H) A list of property owners potentially affected by the modification	Section 5.0
(I) A discussion of the potential effect on nearby property owners, the public and the parties in the application proceedings.	Section 6.0

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## 1.2 Ownership of Inland Empire Energy Center, LLC

Inland Empire Energy Center (IEEC), LLC, a wholly owned subsidiary of Calpine Corporation, is the project owner. On November 15, 2005, Calpine Corporation and GE Energy entered into a Letter of Intent agreement that provides for GE Energy to acquire IEEC, LLC after the project, as amended, has among other items, received certain regulatory approvals, and has completed certain linears contracts to provide for the gas lateral, electrical interconnect, water supply, and wastewater discharge. Upon completion, Calpine will sell IEEC to GE. This transaction will occur before site mobilization, which is targeted for August 1, 2005. The licensee will continue to be IEEC.

## 1.3 Necessity of Proposed Changes

The Siting Regulations require a discussion of the necessity for the proposed revision to the IEEC project and whether the modification is based on information known by the petitioner during the certification proceeding (Title 20, CCR, Sections 1769 [a][1][B], and [C]). The natural gas pipeline described in the 2001 AFC connected with an off-site gas compressor station. This compressor station covered 2.6 acres and was sited on a 6.7-acre parcel located on Rouse Road. The compressor station was necessary to maintain gas pressure in Southern California Gas Company's (SoCal Gas's) pipeline system between the project area and SoCal Gas's Rainbow Compressor Station. Because of changes in SoCal Gas's policies regarding the siting of compressor facilities, the off-site compressor station is no longer needed. These policy changes occurred after the CEC December 2003 Decision and SoCal Gas has proposed a shorter and more direct pipeline route between the project and the SoCal Gas pipelines adjacent to Menifee Road (Figures 1 and 2). This new route would have lower environmental impact and be less expensive to construct.

## 1.4 Consistency of Changes With Certification

The Siting Regulations also require a discussion of the consistency of the proposed project revision with the applicable laws, ordinances, regulations, and standards (LORS) and whether the modifications are based upon new information that changes or undermines the assumptions, rationale, findings, or other bases of the final decision (Title 14, CCR Section 1769 [a][1][D]). If the project is no longer consistent with the certification, the petition for project change must provide an explanation for why the modification should be permitted.

The proposed project revisions are consistent with all applicable LORS. This request for approval is not based upon new information that changes or undermines any bases for the final decision. The findings and conclusions contained in the Commission Decision for the IEEC project (California Energy Commission 2003) are still applicable to the project as modified.

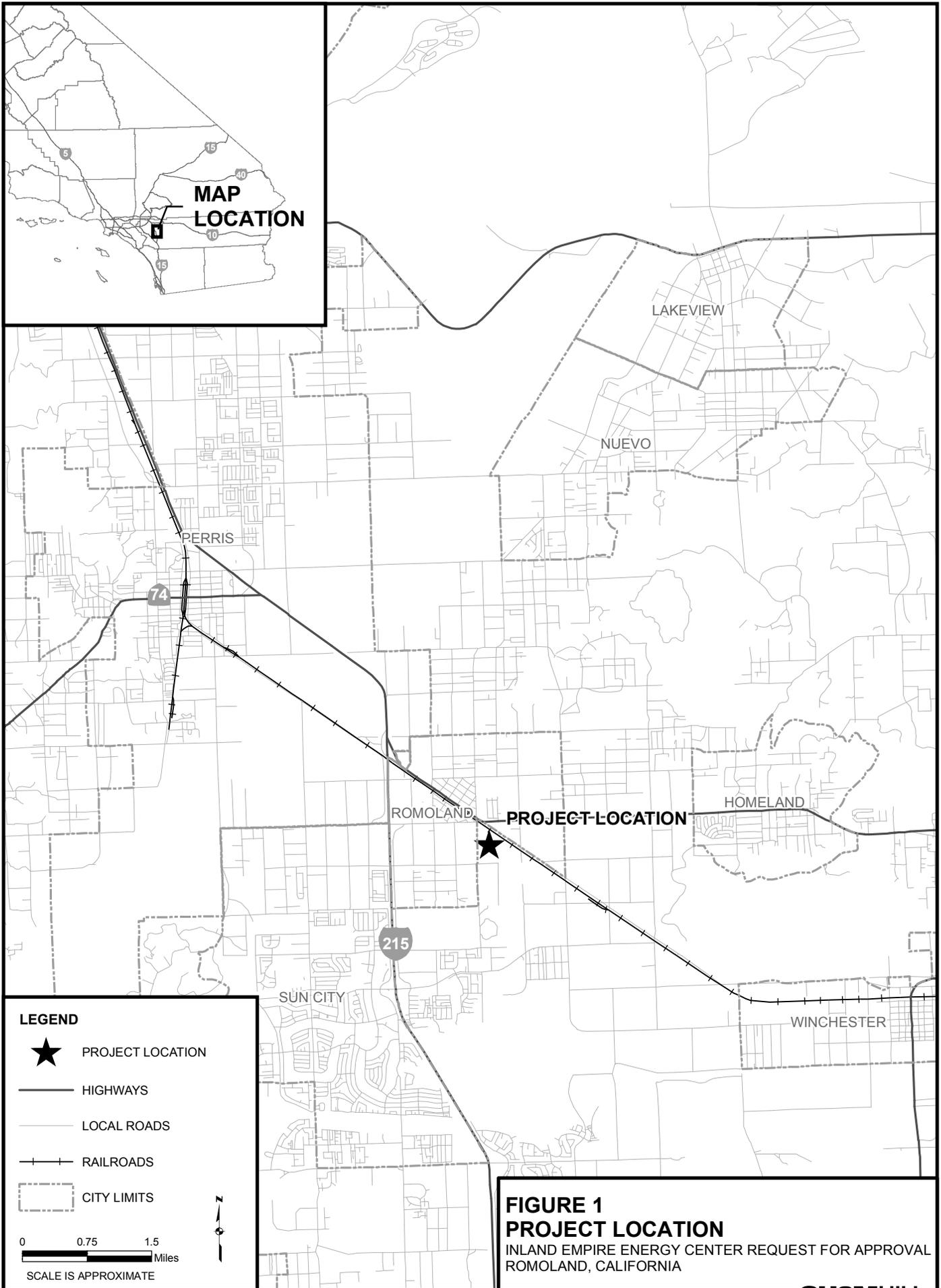
## 1.5 Summary of Environmental Impacts

The CEC Siting Regulations require that an analysis be conducted to address the potential impacts the proposed project change may have on the environment and proposed measures

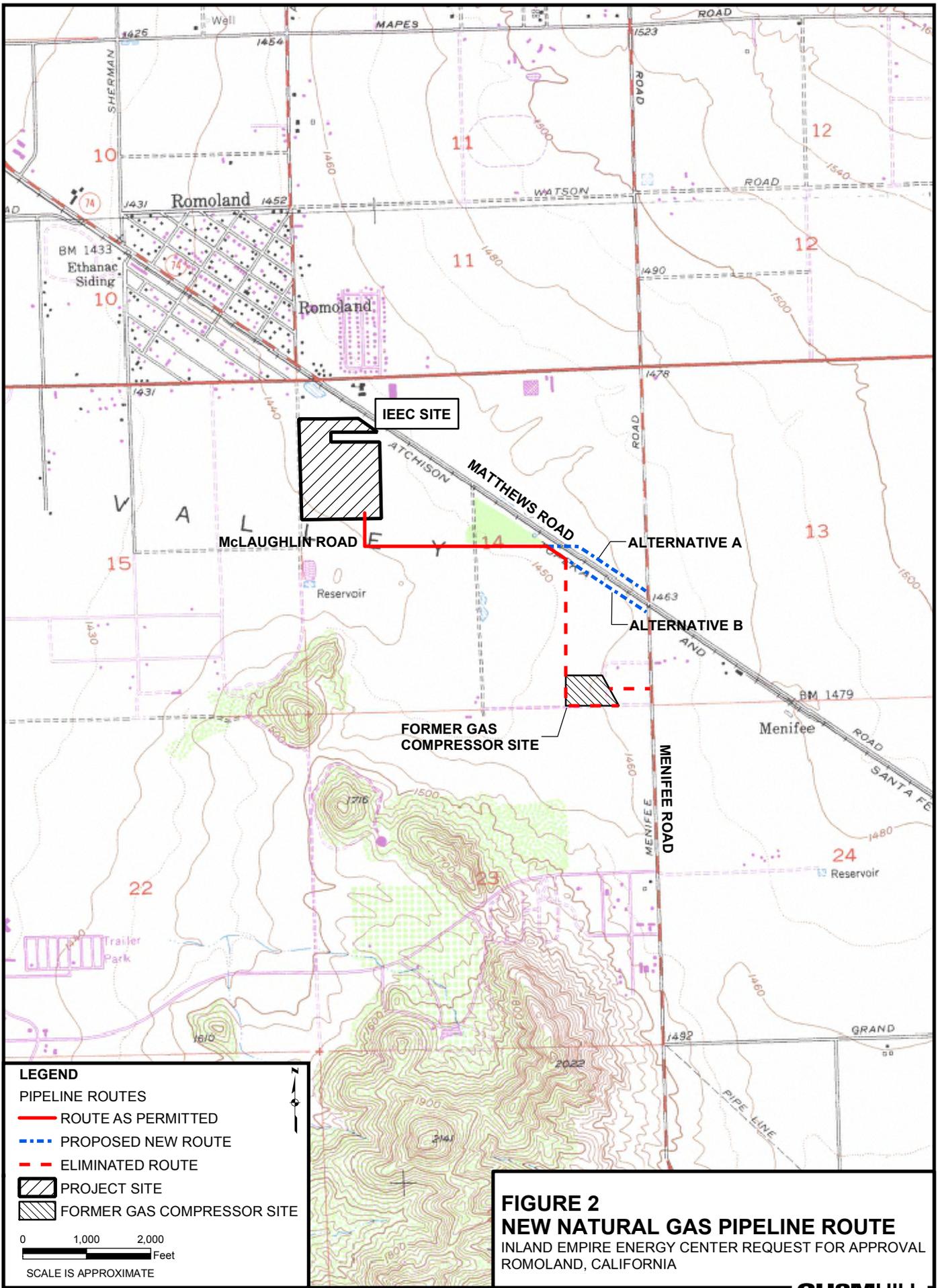
to mitigate any potentially significant adverse impacts (Title 20, CCR, Section 1769 [a][1][E]). The regulations also require a discussion of the impact of the proposed change on the facility's ability to comply with applicable LORS (Section 1769 [1][a][F]). Section 3.0 of this request for approval includes a discussion of the potential environmental impacts associated with the reroute as well as a discussion of the consistency of the modification with LORS. For discipline areas affected by the proposed modifications, Section 3.0 also includes any information necessary to update environmental baseline information to reflect significant changes in baseline conditions that may have occurred between the time information submitted previously in support of the application was developed and the present. Section 3 concludes that there would be no significant environmental impacts associated with implementing the actions specified in this request for approval and that the project as modified would comply with all applicable LORS.

## 1.6 References Cited

California Energy Commission. 2003. Commission Decision, Inland Empire Energy Center, Application for Certification (01-AFC-17), Riverside County. California Energy Commission, Sacramento, California. December 22, 2003.



**FIGURE 1**  
**PROJECT LOCATION**  
 INLAND EMPIRE ENERGY CENTER REQUEST FOR APPROVAL  
 ROMOLAND, CALIFORNIA



**FIGURE 2**  
**NEW NATURAL GAS PIPELINE ROUTE**  
 INLAND EMPIRE ENERGY CENTER REQUEST FOR APPROVAL  
 ROMOLAND, CALIFORNIA

## 2.0 Description of Project Change

This section includes a complete description of the proposed project change consistent with CEC Siting Regulations (Title 20, CCR, Section 1769 [a][1][A]). As described above, a change in the SoCal Gas policy regarding the siting of compressor facilities eliminated the need for IEEC to construct a gas compressor near the SoCal Gas distribution pipelines on Menifee Road. This, in turn, eliminates the need to acquire land on Rouse Road for siting the gas compressor. The project’s natural gas pipeline can therefore take a more direct route to the SoCal Gas pipeline.

The pipeline route described in the AFC and Commission Decision (Alternative A in the AFC) runs from the power plant site south to McLaughlin Road. It then turns east and runs along the south side of McLaughlin Road to the Union Pacific Railroad tracks. This route turns southeast, running at an angle to an agricultural access road, which it follows due south to Rouse Road. The route enters the previously proposed compressor station at Rouse Road, then travels due east from the compressor station to the connection point near Menifee Road.

The newly proposed route is shown in Figure 2. It would travel more directly to a Menifee Road connection point. As with the previous route, it would travel south from the power plant site to McLaughlin Road and east on McLaughlin Road to the Union Pacific railroad tracks. From this point, the two alternative alignments of the new pipeline route diverge. Alternative A continues east across the railroad tracks to Matthews Road, which parallels the tracks on their northeastern side. This alternative would then continue southeast along or within Matthews Road to the Menifee Road connection point. Alternative B of the new routing would follow the railroad right-of-way along its southern side, as did the AFC route. Instead of turning south along the dirt farm road to Rouse Road, however, this alternative would continue to the southeast along and adjacent to the railroad alignment to the Menifee Road connection point. Either of the new routing alternatives will provide a more direct access between the IEEC project site and the SoCalGas distribution lines. Table 2 compares the segment lengths of the pipeline as described in the AFC with new route Alternatives A and B.

TABLE 2  
Pipeline Segment Lengths

Alignment	Power Plant to Alternative Route		Alternative Route to Menifee Road		Total	
	feet	miles	feet	miles	feet	miles
Alternative A in AFC/Commission Decision	3,717	0.70	3,577	.68	7,294	1.4
New route Alternative A	3,352	0.63	1,758	0.33	5,110	0.96
New route Alternative B	3,717	0.70	1,503	0.28	5,220	0.98

No other changes to the design, construction, or operation of the IEEC's natural gas pipeline are proposed in this request for approval. The pipeline will be constructed and operated as described in the Application for Certification (AFC).

# 3.0 Environmental Analysis of Proposed Project Change

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The following sections provide an environmental analysis for each of 14 different discipline areas that addresses: (1) significant changes to the project area environmental baseline if these changes have taken place since the certification was granted and have a bearing on the environmental impact analyses for the project as modified, and (2) significant potential changes to environmental impacts of the project that are a result of the pipeline routing change. Each section includes an environmental analysis, followed by a list of any changes to the Conditions of Certification that are necessary because of the project changes, provided as a text mark-up.

The environmental disciplines are addressed in alphabetical order, as follows:

- 3.1 Air Quality
- 3.2 Biological Resources
- 3.3 Cultural Resources
- 3.4 Geology and Paleontology
- 3.5 Hazardous Materials Management
- 3.6 Land Use
- 3.7 Noise
- 3.8 Public Health
- 3.9 Socioeconomics
- 3.10 Soil and Water Resources
- 3.11 Traffic and Transportation
- 3.12 Visual Resources
- 3.13 Waste Management
- 3.14 Worker Safety and Fire Protection
- 3.15 LORS

## 3.1 Air Quality

The pipeline reroute would not affect air resources differently than described in the Commission Decision. Although construction of the pipeline would involve the generation of some fugitive dust, the amount of PM<sub>10</sub> generated would be less than under the original application, because the new pipeline route is shorter. The Commission Decision, in addition, contains Conditions of Certification that mitigate construction PM<sub>10</sub> emissions to levels below significance.

## 3.2 Biological Resources

Biological resources issues were addressed in the 2001 AFC and agency consultation with CEC, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game

(CDFG), Riverside County Habitat Conservation Agency, and Army Corps of Engineers (USACE). The following provides a supplemental assessment of the potential effects on biological resources associated with the gas pipeline reroute proposed in this license request for approval.

### 3.2.1 Environmental Baseline Information

#### 3.2.1.1 Habitat and Vegetation Communities

The habitat potentially affected along the new pipeline route can be characterized as ruderal field and agricultural. These habitat types and vegetation communities coincide with the habitat and vegetation communities defined and described in the 2001 AFC. The overall IEEC project area is described as “developed and disturbed land” in the Riverside County Integrated Project Multiple Species Habitat Conservation Plan (MSHCP) (Riverside County 2003). The new pipeline routes do not include seasonal wetlands or other potential federal-listed vernal pool branchiopod habitat.

#### 3.2.1.2 Special-Status Species

The AFC includes a list of special-status plant and wildlife species compiled for the project area based upon the following references: (1) the CDFG California Natural Diversity Data Base (CNDDDB), (2) a USFWS species list for the area, (3) informal consultations with USFWS and USACE agency personnel, and (4) project-specific field surveys. Both the USFWS list and CNDDDB were updated for this request for approval.

The 2001 AFC included the results of a CNDDDB search of the Perris, Romoland, Lakeview, Sunnymead, and El Casco 7.5-minute USGS topographical quadrangles. The project owner later eliminated a natural gas pipeline alternative (AFC Route B) extending north of the main site and into the Sunnymead and El Casco quadrangle vicinities. For this reason, those two quadrangles were not included in the recent database searches. The Winchester quadrangle was added for additional coverage of the project area.

The 2005 CNDDDB search results do not warrant the assessment of any special-status species not already included in the 2001 AFC or suggest the need for additional impact analysis of species included in the 2001 AFC.

Supplementary reconnaissance-level field surveys were performed by CH2M HILL John Cleckler on January 14, 2005 and in conjunction with a field visit with SoCal Gas representative on March 17, 2005, to characterize the biological resources for the natural gas pipeline routing change addressed in this document. The qualifications of the field biologist are provided in Appendix A.

#### Special-Status Plants

The analysis conducted for the 2001 AFC indicated that, at that time, 12 special-status plant species had the potential to occur in the project area. A new CNDDDB search conducted for this request for approval did not result in any additions to this list that would require additional consideration for project impacts. No special-status plant species were observed in the project survey areas during protocol-level surveys conducted in support of the 2001 AFC and no evidence of these plant species was discovered during field reconnaissance for this request for approval along either of the two pipeline route alternatives.

## Special-Status Wildlife

The analysis conducted for the 2001 AFC indicated that, at that time, 13 special-status wildlife species had the potential to occur in the general project area. A new CNDDDB search conducted for this request for approval did not result in additions to this list that would require additional consideration for project impacts. Further analysis of existing habitat and known species distribution, and particularly the elimination of natural gas pipeline Alternative B, shortened the list to 2 species with the potential to occur near the project site: vernal pool fairy shrimp (*Branchinecta lynchi*) and western burrowing owl (*Athene cunicularia hypugea*).

No special-status wildlife species were observed in the project vicinity during protocol-level surveys conducted in support of the 2001 AFC. Inconclusive sampling of potential fairy shrimp habitat resulted in an agreement between the project owner and USFWS to avoid vernal pool fairy shrimp in depression MW-51, adjacent to and north of McLaughlin Road along the transmission interconnection route approved in the Commission Decision. No changes are proposed in the vicinity of MW-51 in this request for approval.

Potential burrowing owl habitat was identified in the ruderal fields, roadsides, and crop margins within the project area, although no appropriate-sized mammal burrows or associated owl sign (feathers, pellets, prey items) were observed during past or recent surveys. Burrowing owl avoidance measures will be developed as part of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) (Condition BIO-5) in case burrowing owls move into the area and are found during pre-construction surveys or project construction.

The project area is located entirely within the Stephens' kangaroo rat (SKR) fee area as defined by the SKR Habitat Conservation Plan (HCP). Therefore, a prescribed fee must be paid, based on the total project acreage.

### 3.2.1.3 Biological Surveys

The biological resources evaluation is primarily based on the biological field surveys, agency consultation, and resulting analysis performed in support of the 2001 AFC. Supplementary field surveys were performed for this request for approval as described above, to characterize the biological resources for the new pipeline route alternatives addressed in this request for approval.

As with the initial field surveys, the 2004/2005 reconnaissance-level biological surveys focused on characterization and potential impacts associated with vegetation communities, wetlands, wildlife, and wildlife habitats in the vicinity of the new temporary and permanent impact areas. The field surveys were aided by aerial photographs, which helped identify land uses on the site and surrounding areas. The presence or potential presence of sensitive biological resources was determined from the former biological studies, the 2004/2005 field surveys, published and unpublished literature, and natural resource agency databases. A list of wildlife species observed during the 2004/2005 biological surveys is included in Table 3.

TABLE 3  
Wildlife Species Observed During the 2004/2005 Biological Reconnaissance Visits of the IEEC Project Area

Common Name	Scientific Name	Location	Sign
<b>Reptiles</b>			
Western fence lizard	<i>Sceloporus occidentalis</i>	Open ruderal field north of proposed transmission line	Carcass observed
<b>Birds</b>			
Turkey vulture	<i>Cathartes aura</i>	Flying over general vicinity	Observed
Red-tailed hawk	<i>Buteo jamaicensis</i>	Flying over general vicinity	Observed
Killdeer	<i>Charadrius vociferus</i>	Adjacent ruderal fields and along roads and open fields in the general vicinity	Observed
Rock dove	<i>Columba livia</i>	Throughout general vicinity	Observed
Mourning dove	<i>Zenaida macroura</i>	Laydown parcel west of project site	Observed
American crow	<i>Corvus brachyrhynchos</i>	Flying over general vicinity	Observed
Horned lark	<i>Eremophila alpestris</i>	Adjacent agricultural fields	Observed
Western meadowlark	<i>Sturnella neglecta</i>	Adjacent agricultural fields	Observed
<b>Mammals</b>			
California ground squirrel	<i>Spermophilus beecheyi</i>	Margins of laydown area west of project site and in general vicinity along rail road berms and other locations within open areas	Observed
Desert cottontail	<i>Sylvilagus audubonii</i>	Along McLaughlin Road	Observed
Domestic dog	<i>Canis familiaris</i>	Throughout	Tracks

The new alternative routings of the natural gas pipeline follow the south side of McLaughlin Road to the Union Pacific Railroad right-of-way. At this point, Alternative A turns south and parallels the railroad tracks adjacent to an existing pipeline easement that follows a dirt agricultural field access road southeast to Menifee Road. The agricultural field is planted in winter wheat. Alternative B continues along McLaughlin Road across the railroad tracks to Matthews Road, where it turns southeast and runs along the roadside to Menifee Road. Habitat adjacent to Matthews road is a type classed as “urban/exotic/residential vegetation community with a strong non-native component” in the 2001 AFC. Although degraded, the fields do represent open habitat that provides some foraging opportunities for raptors that may prey on small mammals, birds, and reptiles.

### 3.2.2 Environmental Consequences

In the 2001 AFC, potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of project construction, operation, maintenance, and decommissioning of the IEEC project and supporting facilities. The following includes an evaluation of the impacts associated with the proposed changes to the original project.

### 3.2.2.1 Standards of Significance

As with the 2001 analysis, impacts on biological resources are considered significant if one or more of the following conditions could result from implementation of the proposed project:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species
- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a California special-status species, including fully protected, candidate proposed for listing, California Species of Concern (CSC), and some California Native Plant Society (CNPS) list designations
- Substantial interference with the movement of resident or migratory fish or wildlife species
- Substantial reduction of habitat for native fish, wildlife, or plants
- Substantial disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitat
- Removal of trees designated as heritage or significant under County or local ordinances

### 3.2.2.2 Potential Impacts of Construction of the New Natural Gas Pipeline Route

The new natural gas pipeline routes would result in temporary impacts to field edge environments, unless the pipeline is placed directly in Matthews Road under Alternative A. The acreage of temporary disturbance, however, would be less than that for the natural gas pipeline route as certified in the Commission Decision. Although the quality of the land as wildlife habitat is marginal, it could be used seasonally by foraging birds, small mammals, and reptiles.

#### Special-Status Species

No special-status species have been observed or recorded by past project-specific database searches or surveys for the project area. The new pipeline route does not include unique habitat features that would provide habitat for special-status species not addressed in the 2001 AFC. The pipeline reroute decreases the temporary disturbance acreage of the overall project slightly, which will be reflected in a recalculated mitigation fee for SKR.

As mentioned above, the entire project is within the SKR fee area as defined by the SKR Habitat Conservation Plan (HCP). The new pipeline route is not characterized by shrub and grassland habitats associated with the SKR, but is within the HCP fee area. The HCP fee will be recalculated for the project at the prescribed rate. Additional agency consultation on this matter will not be required. Fee payment to the Riverside County Habitat Conservation Agency will fully mitigate potential SKR impacts and further consultation can be completed informally.

#### Wetlands and Waters of the U.S.

No jurisdictional wetlands or waters are present within the new pipeline route right-of-way.

Approval of this petition will not result in any potentially significant, unmitigated impacts to biological resources including:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species
- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a California special-status species, including fully protected, candidate proposed for listing, California Species of Concern (CSC), and some California Native Plant Society (CNPS) list designations
- Substantial interference with the movement of resident or migratory fish or wildlife species
- Substantial reduction of habitat for native fish, wildlife, or plants
- Substantial disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitat
- Removal of trees designated as heritage or significant under County or local ordinances

### 3.2.3 Mitigation Measures

Additional mitigation measures (beyond those of the Commission Decision) are not required for this request for approval. The existing measures will be adequate and adopted for the revised project and construction plans.

### 3.2.4 Consistency with LORS

The construction and operation of the IEEC, as amended, will conform with all applicable LORS related to biological resources.

### 3.2.5 References Cited

California Energy Commission. 2003. Commission Decision, Inland Empire Energy Center, Application for Certification (01-AFC-17), Riverside County. California Energy Commission, Sacramento, California. December 22, 2003.

Calpine Corporation. 2001. Inland Empire Energy Center Application for Certification. August 2001.

CDFG. 2002. California Natural Diversity Data Base. Search of the Perris, Romoland, Lakeview, and Winchester, 7.5-minute USGS quadrangles. January 18, 2005 Revision.

Riverside County. 2003. Riverside County Integrated Project Multiple Species Habitat Conservation Plan (MSHCP). Website: <http://rcip.org/conservation.htm>. Adopted June 17, 2003.

### 3.2.6 Conditions of Certification

The rerouting of the pipeline and elimination of the gas compressor decreases the acreage of temporary disturbance from 47.7<sup>1</sup> to 44.9 acres, assuming a 70-foot right-of-way for the natural gas pipeline<sup>2</sup>. Therefore, no changes to the Conditions of Certification are necessary, since the fees paid for the acreages stipulated in Condition BIO-11 are sufficient.

## 3.3 Cultural Resources

The pipeline reroute would not involve new ground disturbing activities that could affect cultural resources differently than described in the Commission Decision. The new route, however, does involve the potential disturbance of areas not previously considered for construction activity. For this reason, the Project Owner conducted additional field inventory to determine whether or not significant cultural resources are present along the natural gas pipeline route.

### 3.3.1 Environmental Baseline Information

The Project Owner conducted a cultural resources field inventory of the proposed new pipeline route alternatives. Mr. Clint Helton conducted the inventory on May 31, 2005 by walking both natural gas pipeline alternatives in linear transects spaced 10 meters apart or less. A resume for Mr. Helton is provided in Appendix B. Figure 3 depicts the areas covered in the intensive pedestrian survey.

### 3.3.3 Mitigation Measures

No significant impacts to cultural resources would result from the approval of this request for approval. Therefore, mitigation measures beyond those stipulated in the Commission Decision are not necessary.

### 3.3.4 Consistency with LORS

The construction and operation of the IEEC, as amended, will conform with all applicable LORS related to cultural resources.

### 3.3.5 Conditions of Certification

This request for approval does not require changes to the Cultural Resources Conditions of Certification.

## 3.4 Geology and Paleontology

The new pipeline route would not result in potential impacts to geological resources or paleontological resources and would not cause geological hazards beyond those analyzed by the Commission during certification. There will be no significant construction or

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<sup>1</sup> This number includes acreages of temporary disturbance added under Amendment 1 for three construction laydown areas.

<sup>2</sup> Assuming a 70-foot-wide temporary disturbance corridor, the AFC route would temporarily disturb 11.2 acres (includes entire length, minus 320-foot width of the gas compressor). New route Alternative A would disturb 8.2 acres, and new route Alternative B would disturb 8.4 acres. New route Alternative B (worst case) would thus involve a net reduction in temporary disturbance area of 2.8 acres.

operation disturbance below the ground surface beyond the scope considered in the Commission Decision.

The pipeline reroute could involve minor disturbance of areas not considered in the Commission Decision. This disturbance would take place on or at the surface, however, and so would be unlikely to affect significant geological or paleontological resources. Furthermore, with the implementation of the mitigation measures contained in the Commission Decision for the project, such as paleontological resource monitoring and worker environmental awareness training, any potential impacts would be reduced to a level of insignificance.

### **3.4.1 Mitigation Measures**

No significant impacts to geological or paleontological resources would result from the approval of this request for approval. Therefore, mitigation measures beyond those stipulated in the Commission Decision are not necessary.

### **3.4.2 Consistency with LORS**

The construction and operation of the IEEC, as amended, will conform with all applicable LORS related to geological and paleontological resources.

### **3.4.3 Conditions of Certification**

This request for approval does not require changes to the Geology and Paleontology Conditions of Certification.

## **3.5 Hazardous Materials Management**

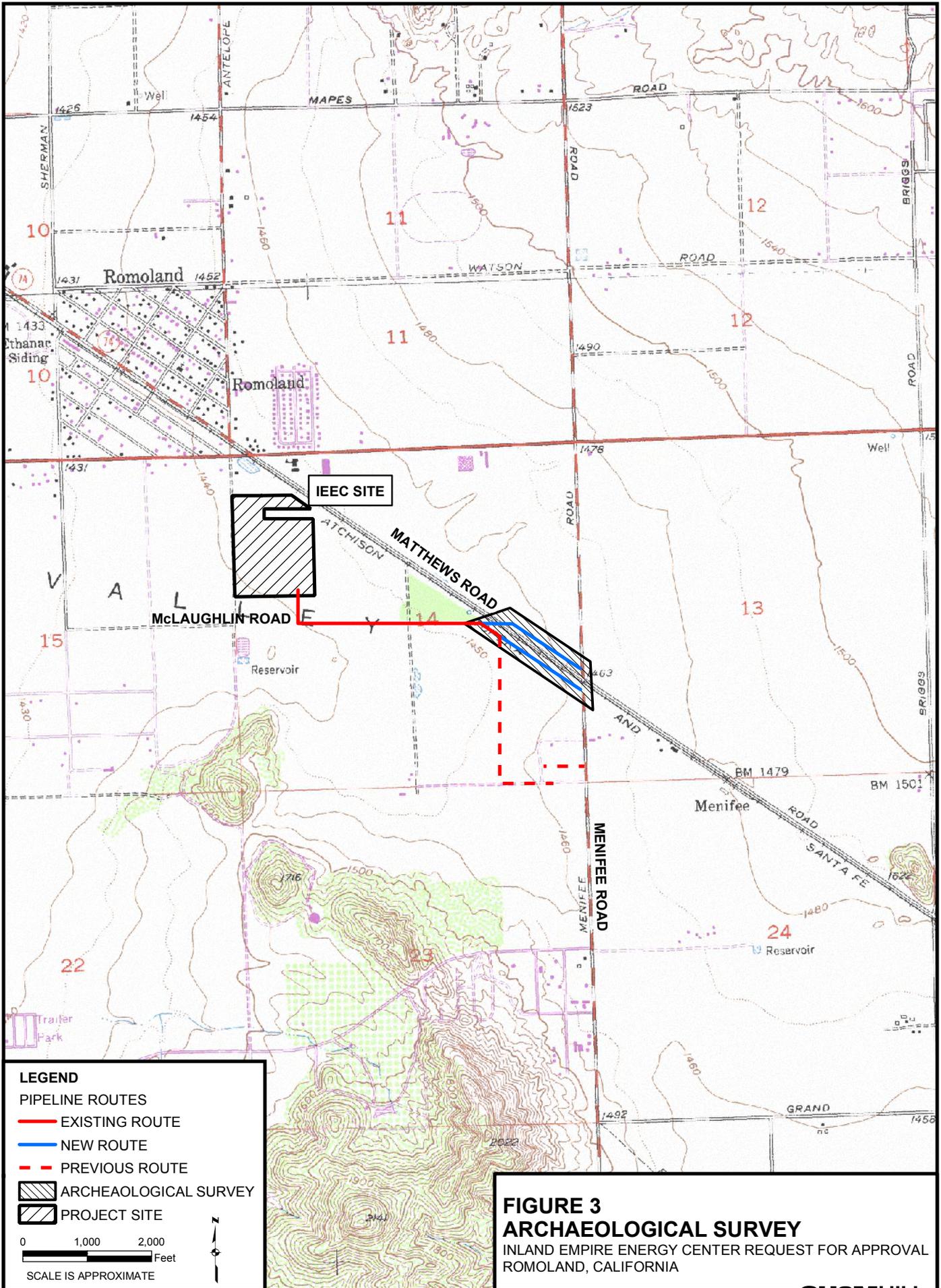
The chemical inventory for the IEEC project is set forth in Appendix C of the Hazardous Materials section of the Commission Decision. Quantities of the chemicals in Appendix C to the Commission Decision would not change due to a change in the pipeline route.

## **3.6 Land Use**

The pipeline reroute would not involve significant changes to the land use findings and conclusions, compared with those described in the Commission Decision. Land uses along the pipeline are agricultural and some adjoining land uses (northeast of Matthews Road) are industrial. Zoning regulations do not apply to utility infrastructure.

## **3.7 Noise and Vibration**

The pipeline reroute would not involve significant changes to the Commission Decision's findings and conclusions regarding noise. Although there would be some noise caused by pipeline construction, this is a temporary impact considered in the Decision. There would be a minor decrease in construction noise, because the reroute would be shorter than the original route. Elimination of the gas compressor will also eliminate an off-site noise source.



### 3.8 Public Health

The changes in the pipeline route proposed in this request for approval will not involve changes in air emissions except to reduce the levels of construction PM<sub>10</sub> slightly. For this reason, the pipeline reroute would not involve changes to the Commission Decision's findings and conclusion.

### 3.9 Socioeconomics

The natural gas pipeline reroute will have no significant effect on socioeconomics.

### 3.10 Soil and Water Resources

Soil erosion potential and water use will not differ significantly from that described in the 2001 AFC.

### 3.11 Traffic and Transportation

The pipeline reroute would not involve significant changes to the Commission Decision's findings and conclusions regarding traffic and transportation. Both the new and old routes involved minor and temporary construction disturbance of traffic on Menifee Road. New route Alternative A proposed in this request for approval would involve construction in or adjacent to Matthews Road not contemplated in the AFC. This road is not heavily traveled, however, and the disruptions of traffic flow would be temporary and insignificant.

### 3.12 Visual Resources

The pipeline reroute would not involve significant changes to the Commission Decision's findings and conclusions regarding visual resources. The pipeline would be underground, and the rerouting would involve elimination of the gas compressor, an above-ground and visible facility.

### 3.13 Waste Management

Waste generated from construction of the rerouted gas pipeline will not differ substantially from the levels analyzed in the AFC and Commission Decision.

### 3.14 Worker Safety and Fire Protection

Since all workers will undergo proper training, the proposed reroute would not result in impacts different than those analyzed by the Commission during certification. As a result, any potential Worker Safety and Fire Protection impacts associated with this request for approval would be less than significant.

### 3.15 LORS

The Commission Decision certifying the IEEC project concluded that the project is in compliance with all applicable LORS. The IEEC project, as amended, will continue to comply with all applicable LORS.

## 4.0 Potential Effects on the Public

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This section discusses the potential effects on the public that may result from the modifications proposed in this request for approval, per CEC Siting Regulations (Title 20, CCR, Section 1769[a][1][G]).

The modifications proposed in this request for approval would benefit the public and local economy by making more jobs available for local construction and operation workers and increasing the level of expenditures and the project's contribution to the local tax base, compared with the project as proposed in the AFC and analyzed in the Commission Decision (see Sections 2.0 and 3.9). No adverse effects on the public would occur because of the changes to project design proposed in this request for approval.

## 5.0 List of Property Owners

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This section lists the property owners in accordance with the CEC Siting Regulations (Title 20, CCR, Section 1769[a][1][H]). Attached is a list of all property owners whose property is located within 500 feet of the new pipeline alternative routes. The list is provided in a format suitable for copy to mailing labels.

331 220 010  
BURLINGTON NORTHERN & SANTA  
FE RR  
2500LOU MENK DRIVE  
FORT WORTH TX 76131

331 220 021  
ANACAPA LAND CO LLC  
155 W MAYES ST #A  
DIXON CA 95620

331 220 038  
SOUTHERN CALIFORNIA EDISON CO  
PO BOX 800  
ROSEMEAD CA 91770

331 220 041  
EDWARD F & LYNDA J METZLER  
38875 AVENIDA LA CRESTA  
MURRIETA CA 92562

331 230 002  
SOUTHERN CALIFORNIA EDISON CO  
PO BOX 800  
ROSEMEAD CA 91770

331 240 001  
BURLINGTON NORTHERN & SANTA FE  
RR  
2500LOU MENK DRIVE  
FORT WORTH TX 76131

331 240 002  
TRUDY GRANT  
6200 STARWOOD WAY  
ROCKVILLE MD 20852

331 240 003  
SCRAPE FAMILY TRUST  
2525 OLD HIGHWAY 395  
FALLBROOK CA 92028

331 250 002  
CARLOS & RUBY G FUENTES  
6270 CHADBOURNE AVE  
RIVERSIDE CA 92505

331 250 004  
BURLINGTON NORTHERN & SANTA  
FE RR  
2500LOU MENK DRIVE  
FORT WORTH TX 76131

331 250 014  
TUFFLI CO INC  
2780 SKYPARK DR #460  
TORRANCE CA 90505

331 250 015  
JAMES WARING  
31150 SANTIAGO RD  
TEMECULA CA 92592

331 250 019  
TUFFLI CO INC  
2780 SKYPARK DR #460  
TORRANCE CA 90505

331 250 021  
CARLOS & RUBY G FUENTES  
6270 CHADBOURNE AVE  
RIVERSIDE CA 92505

331 250 022  
SOUTHERN CALIFORNIA EDISON CO  
PO BOX 800  
ROSEMEAD CA 91770

331 280 002  
BURLINGTON NORTHERN & SANTA  
FE RR  
2500LOU MENK DRIVE  
FORT WORTH TX 76131

331 280 004  
MENIFFEE DEVELOPMENT  
255 E RINCON ST #200  
CORONA CA 92879

331 280 005  
MINOR RANCH LLC  
1522 BROOKHOLLOW DR #1  
SANTA ANA CA 92705

## 6.0 Potential Effects on Property Owners

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This section addresses potential effects of the project changes proposed in this request for approval on nearby property owners, the public, and parties in the application proceeding, per CEC Siting Regulations (Title 20, CCR, Section 1769 [a][1][I]).

As described in this request for approval, there would be no significant adverse impacts from the adoption of one of the new gas pipeline alternative routes. Therefore, there no significant adverse effects on property owners would result from the adoption of the changes proposed in this request for approval.

**Appendix A**  
**Resume of John Cleckler**

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# John Cleckler

## Wildlife and Fisheries Biologist

### Education

B.S., University of California at Davis, 1990

### Representative Projects

- **Project Biologist, Metcalf Energy Center, Santa Clara County.** Assisted in preparation of the Biological Resource Mitigation Implementation and Monitoring Plan, Resource Management Plan for the MEC Preserve, Fisher Creek Riparian Corridor Enhancement Plan, and Horizontal Directional Drilling Inadvertent Returns Contingency Plan. Managed monitoring efforts, document review, and prepared the environmental training program associated with the proposed Metcalf Energy Center.
- **Team Leader, Teayawa Energy Center Desert Tortoise Surveys, Riverside County.** Performed protocol desert tortoise surveys along proposed utility lines associated with the Teayawa Energy Center project. Assisted with preparation and review of the Biological Resources section of the EIS/EIR.
- **Bird/Wind Turbine Interaction Study, California Energy Commission.** Conducted standard point count surveys for bird/wind turbine interaction study near Tehachapi and Palm Springs, California. Also participated in scavenger studies, data entry, and report writing.
- **Desert Tortoise Monitoring, Mission Geoscience.** Performed desert tortoise monitoring for exploratory drilling project near Barstow, California. Included presentation of an environmental awareness training program.
- **Burrowing Species of Special Concern Survey, Los Vaqueros Reservoir Project.** Conducted surveys for burrowing species of special concern, including San Joaquin kit fox, burrowing owl, and American badger, for the Los Vaqueros Reservoir construction project near Livermore, California. Also constructed drift fences for California tiger salamander.
- **Sensitive Species Surveys, Coachella Valley Association of Governments.** Performed focused surveys for a highway interchange expansion project. Focused surveys were conducted for Coachella Valley fringed-toed lizard, Coachella Valley Jerusalem cricket, Coachella Valley giant sand treader cricket, and Coachella Valley grasshopper.
- **Fish Creek Restoration Project, Vulcan Materials/CalMat Division.** Performed a biological reconnaissance survey to determine impacts associated with the proposed realignment and restoration of Fish Creek.

- **Sun Valley Biological Resources Assessment and Tree Inventory, Vulcan Materials/CalMet Division.** Performed a biological reconnaissance survey to determine impacts of proposed mining expansion. Assessment included an inventory of native tree species.
- **Oro Grande Sand and Gravel Mine Restoration Project, Vulcan Materials/CalMet Division.** Performed a biological reconnaissance survey to determine impacts associated with the reclamation strategy and proposed reclamation activities. Special focus was placed on determination of suitable desert tortoise habitat. Developed an environmental awareness program and a list of avoidance measures.
- **Fiber Optic Communications Project Construction Monitoring-Level (3) Communications.** Managed construction monitoring of a 96.5-mile longhaul fiber optic communications line. Special focus was placed on avoidance of desert tortoise and Mohave ground squirrel habitat. Included development and implementation of an environmental awareness program.
- **Sawpit Dam Modification Project, County of Los Angeles Department of Public Works.** Conducted riparian nesting bird surveys downstream of the Sawpit Reservoir. Also trapped southwestern pond turtles prior to de-watering of the reservoir.
- **Southwestern Pond Turtle Translocation Study, County of Los Angeles Department of Public Works.** Captured and translocated southwestern pond turtles from the San Gabriel and Morris reservoir sediment removal project area. Subsequently monitored the translocation success and turtle movement using radio telemetry and GPS.
- **Fiber Optic Communications Cable, Level (3) Communications.** This project included a full range of biological permitting services in support of a nationwide fiber optic network installation project. This linear project included extensive segments transecting the Mojave Desert and the Central Coast regions. Approximately 75 percent of the buried fiber optic cable system was located within railroad right-of-ways. The remainder was located within highway right-of-ways and limited private lands. Responsibilities included environmental documentation and permitting, including wetland delineations, biological resource surveys, and agency consultation.
- **San Joaquin Sanctuary Restoration Project, Irvine Water District.** Conducted breeding birds surveys with special focus on the presence of least Bell's vireo. Monitored construction activities in the vicinity of critical habitat.
- **Quarry at Wheeler Ridge Biological Mitigation Plan, Vulcan Materials/CalMet Division.** Performed a biological reconnaissance survey to determine impacts of proposed mining expansion. Special focus was placed on determination of suitable San Joaquin kit fox and blunt-nosed leopard lizard habitat. A list of appropriate mitigation measures was compiled.

- **Desert Tortoise Survey and Construction Monitoring, Earth Tech, Corrections Corporation of America.** Monitored California City Prison construction activity in desert tortoise habitat. Performed a tortoise clearance survey of a 67.5-acre enclosure. Processed and relocated tortoises. Surveys were conducted under a U.S. Fish and Wildlife Services (USFWS) permit. Prepared and delivered a worker education program.
- **Desert Tortoise Mark/Recapture Survey, National Training Center.** Conducted a mark/recapture survey for desert tortoises on two 1-square mile plots at the National Training Center, Fort Irwin. Surveys are being conducted under USFWS Regional Blanket Permit and subpermit.
- **Hawksbill Turtle Study, Queensland Department of Environmental Heritage, Australia.** Assisted Ph.D. student with an intensive hawksbill turtle nesting biology study within the Great Barrier Reef.
- **Black-Naped Tern Monitoring, Queensland Department of Environmental Heritage, Australia.** Monitored black-naped tern nests as part of an island ecology study in the Great Barrier Reef. Nest success and behavior was observed and recorded on a daily basis throughout the nesting season. These data were collected in conjunction with an ongoing sea turtle project funded by the Queensland Department of Environmental Heritage.
- **Vegetation Surveys, California State University Domingos Hills Foundation, National Training Center.** Conducted vegetation surveys for a disturbance comparison study at the National Training Center, at Fort Irwin near Barstow, California. Used line transects, frequency frames, and biomass analysis methods.
- **Desert Tortoise Survey, Bureau of Land Management.** Conducted desert tortoise population density surveys for the purpose of testing the one-km<sup>2</sup> and one-hectare survey methods against the standard 60-day design. Measured, weighed, marked, and assessed health of tortoises.
- **Biological Survey, Weyerhaeuser.** Surveyed old growth habitat for marbled murrelets on Weyerhaeuser tree farm property near Coos Bay and Roseville, Oregon. Assisted with northern spotted owl surveys.
- **Mohave Ground Squirrel Survey, California Energy Commission.** Trapped, handled, and installed pit tags on Mohave ground squirrels near China Lake, California.
- **Desert Tortoise Survey, Los Angeles Department of Water and Power.** Surveyed for, measured, weighed, marked, and relocated desert tortoises for a Los Angeles Department of Water and Power transmission line construction project. Constructed tortoise burrows and relocated eggs. Monitored construction activities and maintained client relations. Compiled a variety of daily reports. Surveys were conducted in accordance with Biological Opinion #1-6-90-F46.

- **Guanaco Natural History Study, Iowa State University.** Assisted Ph.D. student with ongoing study of guanacos (a camelid species) in Torres Del Paine National Park, Chile. Collected data for behavioral, radio telemetry, and mortality studies. Captured and tagged newborn and adult male guanacos.
- **Salmon Habitat Survey, California Department of Fish and Game.** Surveyed salmon habitat in northwestern California using the General Aquatic Wildlife System. Recorded dimensional measurements, substrate channel types, riparian cover, and other stream features. Conducted electroshock fish sampling.
- **Desert Tortoise Survey, Kern River Gas Company.** Surveyed for, handled, marked, and relocated desert tortoises for a pipeline construction project. Monitored construction activities and maintained client relations. Coordinated biology crews and completed a variety of daily reports. Surveys were conducted in accordance with Biological Opinion #1-1-89-F36R.
- **Ozone Damage Assessment, Sequoia and Kings Canyon National Parks.** Assisted air quality specialist with assessment of ozone damage to pine species by way of chlorotic mottle indices.
- **Peregrine Falcon Monitoring Survey, The Peregrine Fund.** Monitored the hacking procedure release of three juvenile peregrine falcons in Great Basin National Park, Nevada. Conducted behavioral observations, predator defense, radio telemetry, and data recording. Compiled written report following release.
- **Bear Management, Sequoia and Kings Canyon National Parks.** Assisted park biologists with black bear management program. Included educational presentations, incident reporting, and bear capture.

## Professional Associations

- The Wildlife Society
- Desert Tortoise Council
- Society for Conservation GIS
- California Native Plant Society

## Workshops, Seminars, and Professional Training

Surveying, Monitoring, and Handling Techniques Workshop – Desert Tortoise Council, 1992, 1993, 1999, and 2000

Wetland Delineation Training – Wetland Training Institute, 1998

Tracking and Wilderness Awareness Training – Earth Skills, 1998

Horizontal Directional Drilling Inspector Certification Seminar – North American Society for Trenchless Technology & California Department of Transportation, 2000 (certification received).

**Appendix B**  
**Resume of Clint Helton**

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# Clinton Jackson Helton

## Senior Archaeologist

### Education

M.A., Anthropology, Brigham Young University, 1996

B.A., Language and Literature, University of Utah, 1994

### Professional Registrations

Registered Professional Archaeologist (RPA), 1999 (No. 11280)

### Distinguishing Qualifications

- Over 9 years of cultural resources management experience
- Has strong leadership and management skills
- Experienced in managing cultural, paleontological, biological, and environmental compliance resources

### Representative Projects

**Project Manager; Sacramento Municipal Utility District (SMUD) Cosumnes Power Plant and Gas Pipeline Project, Environmental Compliance; Sacramento, California; 2003 to 2004.** Managed interdisciplinary team of over 20 environmental specialists including archaeologists, biologists, and paleontologists during construction of 26-mile gas pipeline and associated power generation plant. Contract value was over \$2.0 million.

**Project Manager; 700-mile Kern River Pipeline Expansion Project; Utah, Nevada, and California; 2002 to 2003.** Managed major cultural resources services contract with Williams Energy, in support of the 700-mile Kern River Pipeline Expansion Project, traversing Utah, Nevada, Wyoming, and California. Individually sought by Williams Energy to provide regulatory guidance, regional technical expertise in cultural resources and project management support, as well as to provide leadership as the agency and subcontractor liaison for the project, given the size, complexity, multistate and multijurisdictional challenges and aggressive schedule of the project. Assisted from project initiation with facilitation of project Programmatic Agreement and led coordination meetings with stakeholder agencies and permitting authorities in California, Utah, Nevada, and Wyoming. Coordinated the activities of three subconsultants as well as the support of the SWCA regional offices and technical contributors. Played major role in the development of treatment plans to mitigate impacts to a large number of National Register eligible cultural sites. Contract value was over \$3.0 million.

**Project Principal/Quality Control Manager; Talega Residential Housing Development, Archaeological and Paleontological Compliance, Data Recovery, and Compliance Monitoring, San Clemente, California; 2001 to 2004.** Acted as project principal for multidisciplinary team providing environmental compliance services for this 3,700-acre home development in San Clemente. Assisted with frequent agency consultation with U.S. Army Corps of Engineers (USACE). Worked with project manager and supporting scientists to ensure adequate staffing and production of high-quality reports. Contract value was over \$1.5 million.

**Project Principal/Quality Control Manager; Dayton Canyon Estates Development; San Clemente, California; 2001 to 2004.** Acted as project principal for multidisciplinary team providing environmental compliance services for this 3,700-acre home development in San Clemente. Assisted with frequent agency consultation with USACE. Worked with project manager and supporting scientists to ensure adequate staffing and production of high-quality reports. Contract value was over \$2.0 million.

**Project Principal /Quality Control Manager; Western Area Power Administration, Transmission Line Project; Imperial County, California; 2003 to 2004.** Provided overall management of cultural resources services for the Parker-Blythe #1 161-kilovolt (kV) transmission line project. The inventory extended from Blythe, California, to Parker, Arizona. A total of 147 sites (136 in California and 11 in Arizona) were recorded.

**Project Principal /Quality Control Manager; Williams Pipeline, Rockies Expansion Pipeline Construction; Idaho and Wyoming; 2003.** Provided overall management of cultural resources and paleontological resources compliance monitoring services for the Rockies Expansion pipeline construction project.

**Project Manager; Level III Communications Fiber Optic Line; Salt Lake to Las Vegas, Nevada; 2001.** Managed multiphased contract for this major interstate utility project. Managed cultural resources surveys of project right-of-way (ROW), cultural resources monitoring during construction, major data recovery excavations of significant archaeological sites, and production of multivolume final technical report production for this large project. Contract value was over \$4.0 million.

**Project Manager; Adesta Communications Fiber Optic Project; Grand Junction, Colorado to Salt Lake City, Utah; 2000.** Managed all aspects of cultural resources compliance for the 260-mile project. Assisted with preparation of environmental assessment (EA) for NEPA compliance. Provided project development, agency coordination, management of project budget and staff, supervision of field crews, identification and recordation of historic and prehistoric resources, laboratory analysis, and report preparation. Contract value was over \$1.0 million.

**Project Manager; Sierra Pacific Power Company, Third-Party Environmental Compliance, 630-Mile Silver State East Fiber Optic Project; Salt Lake City, Utah, to Reno, Nevada; 2000.** Managed multiphase contract to provide staff support to Bureau of Land Management (BLM) during preparation of POD and NEPA document, as well as well as third-party environmental compliance activities during construction of the 590-mile Silver State East Fiber Optic Project by Sierra Pacific Power Company. Led agency coordination, managed the project budget and staff, and assisted with resource data extraction from agency archives. Assisted with development of MOU, Project Charter, Programmatic Agreement, and public scoping process. During 14-month construction process, managed team of 25 cultural and biological resources environmental compliance monitors and acted as point of contact for BLM and Sierra Pacific Power Company. Contract value was over \$2.0 million.

**Project Principal and Manager; Army National Guard Cultural Resources Support Contracts; Utah; 2002 to 2003.** Managed sole-sourced cultural resources services from Army National Guard for all of its 29 facilities within the State of Utah. Primary goal was to assist National Guard with bringing facilities into compliance with Section 106 of NHPA.

Managed archaeological survey, testing, and data recovery projects. Assisted with Native American consultation. Authored an Integrated Cultural Resources Management Plan (ICRMP) to assist the Guard in complying with Department of Defense Instructions 4715.3 and Army Regulation 200-4.

**Program Manager; United States Army Dugway Proving Ground, Cultural and Biological Resources Services; 2001 to 2002.** Program manager for a 3-year, on-call contract to supply cultural and biological resources services to the United States Army's Dugway Proving Ground. Served as primary point of contact for the environmental lead official of the facility. Assisted facility staff with cultural resources compliance activities, including cultural resources inventories in harsh and sometimes dangerous conditions within areas known to contain unexploded ordnances (UXOs) and other potential hazards. Completed required background checks, safety training, range training, and other required training and preparation to work on the sensitive facility. Led crews on several large inventories within this expansive training facility in the West Desert of Utah. Maintained constant communication with Range Control and base staff to avoid conflict with range training activities, while performing the required inventories.

**Project Manager; United States Army Deseret Chemical Depot, Cultural Resources Services; 2001.** As principal investigator for a large multiphased cultural resources investigation of the United States Army's Deseret Chemical Depot, led initial survey design and sampling plan to determine the presence, distribution, type, and significance of cultural resources located at this sensitive chemical weapons facility.

**Project Principal/Quality Control Manager; Questar Pipeline Company, Mainline 104 Pipeline Project; 2001.** Managed cultural resources component of SWCA's contract to Questar Pipeline Company in support of the Mainline 104 natural gas pipeline project, 75 miles of 24-inch-diameter natural gas pipeline from Price to Elberta, Utah, across Carbon, Emery, Sanpete, and Utah Counties, including the Manti-LaSal and Uinta National Forests, BLM, state, and private lands. Conducted cultural resources inventory. Responsible for monitoring compliance with various resources treatment plans and responding to any unanticipated discoveries or inadvertent noncompliance incidents that affect cultural resources. Coordinated with officials from BLM, State Trust Lands, U.S. Department of Agriculture (USDA) Forest Service, and State Historic Preservation Office (SHPO).

**Project Manager; Qwest Fiber Optic Project; Environmental Assessment; Cove Fort, Utah; 2000.** Managed preparation of Environmental Assessment for NEPA compliance. Also prepared required technical report for cultural resources. Responsible for project development, agency coordination, management of project budget and staff, supervision of field crews, and report preparation.

**Project Manager; Williams Communications, Third-Party Environmental Compliance, I-80 Fiber Optic Project; Nevada and Utah; 2000.** Managed third-party construction compliance monitors and representatives of the BLM; ensured that compliance monitors, contractors, and construction crews met the requirements described in the projects construction stipulations, permits, and right-of-way grant. Was the primary liaison to the client, BLM; provided agency coordination, management of project budget and staff, supervision of field crews, and report preparation.

**Project Manager; Williams Pipe Line Project; Thompson to Salt Lake City, Utah; 1998 to 2002.** Managed all aspects of cultural resources compliance for the 260-mile pipeline, including project development, agency coordination, management of project budget and staff, supervision of field crews, identification and recordation of historic and prehistoric resources, laboratory analysis, artifact curation, and report preparation.

**Project Manager; Kennecott Rawhide Mine, On-Call Cultural Resources Services; Fallon, Nevada; 1998.** Was responsible for project development, management of project budget, agency liaison, supervision of field crews, and report preparation for over 1,200 acres of multiple cultural resources inventories.

**Project Manager; Questar Gas Pipeline Company Dog Valley Pipeline Project; Panguitch, Utah; 1998.** Responsible for survey and recordation of 37 historic and prehistoric sites, supervision of field crews, laboratory analysis, artifact curation, and report preparation.

### Training and Certifications

CEQA Training

NEPA Training

Section 106/NHPA Training

Federal Antiquities Permit in California, Oregon, Washington, Utah, and Nevada

### Professional Organizations/Affiliations

Association of Environmental Professionals

Register of Professional Archaeologists

Society for American Archaeology

American Anthropological Association

Member, Utah Professional Archaeological Council

Member, Wyoming Association of Professional Archaeologist