



**Sacramento
Cogeneration
Authority**

P.O. Box 15830, Sacramento, CA 95852-1830 916/732-5248

**DOCKET
93-AFC-2**

DATE: JAN 3 1994

REC'D: JAN 3 1994

Procter & Gamble Cogeneration Project

SCA 94-001

January 3, 1994

Mr. B. B. Blevins
Executive Director
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Attn: Dockets Unit

**RESPONSE TO DATA REQUEST ALTERNATIVE-1 FOR THE PROCTER AND GAMBLE
COGENERATION PROJECT (DOCKET NO. 93-AFC-2).**

Dear Mr. Blevins:

Please find enclosed 12 copies of the response to the data request Alternative-1 regarding potential environmental impacts of technically feasible transmission line alternatives for the Procter and Gamble Cogeneration Project. SCA believes that the response adequately addresses the request. Should you have any questions, please telephone Diana Parker (916-732-6540) or me (916-732-5580).

Sincerely,



Susan Strachan
Manager, Permitting and Licensing

Enclosures

cc: Ron Sims, Walsh Construction
Rich Chapman, Black & Veatch

STATE OF CALIFORNIA

State Resources Conservation
and Development Commission

In the matter of:)	Docket No. 93-AFC-2
)	
Application for Certification)	PROOF OF SERVICE
of the Sacramento Cogeneration)	(rev. 12/3/93)
Authority's Procter & Gamble)	
Cogeneration Project)	

PROOF OF SERVICE

I, Evangeline Parchamento, declare that on January 3, 1994, I deposited copies of the attached Response to Data Request Alternative-1 for the Procter and Gamble Cogeneration Project (Docket No. 93-AFC-2) in the United States mail at Sacramento, California, with first class postage thereon fully prepaid and addressed to the following:

APPLICANT

Ms. Susan Strachan, Manager
Projects Permitting & Licensing
SMUD
Box 15830
Sacramento, CA 95852-1830

Steve Cohn
Senior Attorney
SMUD
P.O. Box 15830
Sacramento, CA 95852-1830

INTERESTED AGENCIES

Richard Johnson
Division Chief
Sacramento Metro AQMD
8411 Jackson Road
Sacramento, CA 95826

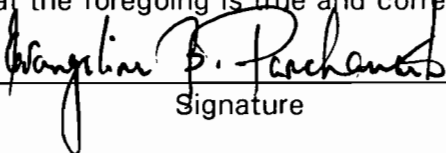
Ray Menebroker, Chief Project
Assessment Branch
Stationary Source Division
California Air Resources Board
P. O. Box 2815
Sacramento, CA 95814

Ed Schnabel
Sacramento Metropolitan Water District
5331 Walnut Avenue
Sacramento, CA 95841

CALIFORNIA ENERGY COMMISSION
(Docket Unit - 12 copies required)

Docket Unit, MS-4
1516 Ninth Street
Sacramento, CA 95814

I declare under penalty of perjury that the foregoing is true and correct.



Signature

Attachment

STATE OF CALIFORNIA

State Resources Conservation
and Development Commission

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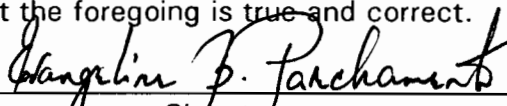
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**DATA RESPONSE TO ALT-1 OF DATA REQUEST FOR PROCTER AND GAMBLE
COGENERATION PROJECT (DOCKET NO. 93-AFC-2)**

ALT-1

The AFC (Section 3.15.2) discusses electrical transmission line alternatives, using several different routes. Please revise this discussion to include consideration of the environmental factors along each route.

SCA Response:

The Procter and Gamble Cogeneration Project AFC Section 3.15, identifies Alternative 6 as the preferred transmission line project. SCA does not believe there are any significant environmental impacts associated with this alternative. Of the remaining alternatives identified, the following are considered to be technically feasible. The alternatives include: 3C, 4A, 4B, 5, 5A, and 7. The methodology used in preparing this analysis includes a phase I cultural resource study, a biological study, review of county and city general and community plans, and a visual analysis. Below is a discussion of the environmental factors associated with each of these alternatives.

ALTERNATIVE 3C

Alternative 3C has two potential routes. One route is 1.9 miles and travels west from the proposed cogeneration plant and then southeast along the Southern Pacific Railroad tracks. The other route is 2.6 miles and heads east from the plant and southeast along the Central California Traction Railroad tracks. Either option includes reconductoring the Hedge to South City 115kV line, which would interconnect the project. Because a detailed design analysis was not done for the reconductoring (due to the overall cost including losses of this alternative), it is not known if the existing towers would need to be replaced to accommodate the reconductoring. If replacement towers were necessary, possible biological and/or cultural resource impacts could occur when old towers are removed and new towers are installed.

Potential Impact/Mitigation

Biology

For the 1.9 mile section, there are small channelized wetlands located along the Southern Pacific railroad right-of-way, in the area adjacent to the Army Depot. Any potential impacts to this area would be mitigated through avoidance. This alternative also crosses Morrison Creek; however, the creek has been channelized through this area.

The other 2.6 mile segment of this alternative, has several vernal pools located along the Central California Traction Railroad right-of-way and adjacent to it. The pools are located along Morrison Creek in the area where the transmission line would cross the creek. Mitigation of these vernal pools would be accomplished through avoidance.

Visual

Given the industrial nature of the routes and the existing transmission, distribution, and communication lines in the area, Alternative 3C would not result in any visual impacts.

Land Use

Land use designations along the route include heavy commercial or warehouse, industrial, and public-quasi public (Army Depot) for that portion of the route which exits the project site to the west and heavy commercial or warehouse for that portion of the route which exits the project site to the east. Zoning designations are heavy industrial (M2 and M2S).

Cultural Resources

Based upon the Phase I cultural resource survey, there are no known cultural resources sites along either route.

Alternative 3C was dismissed because of higher overall cost due to a substantial additional cost for increased system losses and questionable system performance. The estimated cost of construction would increase if tower replacement were required to carry a larger size conductor.

ALTERNATIVE 4A

Alternative 4A includes Alternative 4 but also incorporates an additional transmission line in order to mitigate technical problems with Alternative 4. Alternative 4 travels east from the project site to the East City-Hedge 115kV line. Alternative 4A includes this route, but also includes an additional transmission line which exits the northwest corner of the project, following Power Inn Road north to the Sacramento Regional Transit District's Light Rail line, then west to cross under Highway 50 and terminate at the East City 115 kV bus. The entire length of Alternative 4A is 3.8 miles.

Potential Impacts/Mitigation

Biology

The portion of the route which travels east to the East City-Hedge

115kV line is the same route as the preferred alternative and the impacts are the same as those discussed in the AFC for the preferred alternative. The portion of the route which is from the project site to Power Inn Road is located near highly disturbed wetlands, including vernal pools (See figure 6.4-2 of AFC). However, these could be avoided. The route segment along Power Inn Road would likely require undergrounding, due to the number of existing transmission lines and to accommodate the Highway 50 crossing. There are no environmentally sensitive areas along this portion of the route.

Traffic and Transportation

Underground construction of the portion of the transmission line along Power Inn Road would result in temporary traffic impacts.

Visual

Given the industrial nature of the route and the existing transmission, distribution, and communication lines in the area, Alternative 4A would not result in any visual impacts. In addition, the portion of the line along Power Inn Road would be underground and therefore, not visible.

Land Use

Land use designations along the route are industrial, heavy commercial or warehouse, commercial, and parks/recreation(Granite Pit) for that portion of the route which exits the project site to the west and heavy commercial or warehouse and industrial-employee intensive for that portion of the route which exits the project site to the east. Zoning designations are heavy industrial(M2 and M2S).

Cultural Resources

Based upon the Phase I cultural resources survey for the segment of the alternative which travels east from the project site and the existing development along the portion of the route which heads west from the plant site, it is believed that there are not any cultural resource sites along the route of Alternative 4A.

Alternative 4A was not selected as the preferred alternative because of high construction costs (\$13.4 million versus \$5.95 million for the preferred alternative).

ALTERNATIVE 4B

Alternative 4B leaves the project site and travels east to loop into the existing East City to Hedge 115kV line. The East City to

Hedge 115kV line would have to be reconductored. This alternative is a total of 6.8 miles.

Potential Impacts/Mitigation

The route up to the East City to Hedge line is the same as the preferred alternative. As a result, the environmental impacts are the same. However, because a detailed design analysis was not done for the reconductoring of the East City-Hedge line (due to the cost of this alternative) it is not known if the existing towers would need to be replaced to accommodate the reconductoring. If replacement towers were necessary possible biological and/or cultural resource impacts could occur when old towers are removed and new towers are installed.

Alternative 4B, which was not selected as the preferred alternative, has slightly higher overall cost including losses. In addition, system performance is uncertain and the estimated construction cost would increase if tower replacement were required.

ALTERNATIVE 5

Alternative 5 consists of a single circuit 230kV line and a route which is 3.4 miles in length. As this alternative leaves the project site, it heads east then turns southeast, running parallel to the Central California Traction Railroad line and an existing SMUD 69kV line. The route then reaches an existing SMUD transmission line rights-of-way south of Elder Creek Road and heads 1/2 mile east to the Hedge substation.

Potential Impacts/Mitigation

Biology

There are several vernal pools located along the route and in its vicinity. A large area of vernal pools exists along Morrison Creek in the area where the transmission line would cross the creek. There are also several small areas of vernal pools located south of the Hedge Substation and south of Elder Creek Road. Mitigation of these vernal pools would be accomplished through avoidance.

Visual

Given the industrial nature of the route and the existing

transmission, distribution, and communication lines in the area, Alternative 5 would not result in any significant visual impacts.

Land Use

There are scattered residences south of Elder Creek Road. Some of these residences abut the rights-of-way for Alternative 5. Expanded rights-of-way would be required along the back pastures of homes in this area to accommodate Alternative 5. The areas along the transmission line are designated heavy commercial or warehouse. Zoning designations are heavy industrial(M2S).

Cultural Resources

Based upon the Phase I cultural resource survey, there are no known cultural resource sites along the route.

Alternative 5 was dismissed because a single circuit radial tie offers the least plant reliability and flexibility for a multiple unit cogeneration plant.

ALTERNATIVE 5A

Alternative 5A is the same as Alternative 5 except that Alternative 5A consists of a double circuit 230kV line instead of a single circuit 230kV line.

Potential Impacts/Mitigation

All of the potential environmental impacts/mitigation are the same for this route as they are for Alternative 5.

Alternative 5A was not selected because of high construction cost and overall cost including losses and decreased reliability as compared to the preferred interconnection alternative.

ALTERNATIVE 7

The route for Alternative 7 is the same as Alternative 3C with the exception that Alternative 7 would loop-in to the Hedge to Pocket 230kV line, with no reconductoring, whereas Alternative 3C would loop-in to the Hedge to South City 115kV line, with reconductoring. The Hedge to Pocket 230kV line and the Hedge to South City 115kV line are in the same right-of-way.

Potential Impacts/Mitigation

Potential environmental impacts for both segments of this alternative are the same as for Alternative 3C.

The Hedge to Pocket 230kV line is 0.5 mile from the proposed Sacramento Power Authority at Campbell (SPAC) cogeneration project and has been selected as the preferred interconnection for the SPAC project. Alternative 7 was dismissed primarily because of higher costs and the loop-in of any two high magnitude generation facilities into the same line is not desirable because of increased risk of impact to the integrity of the 230kV system.

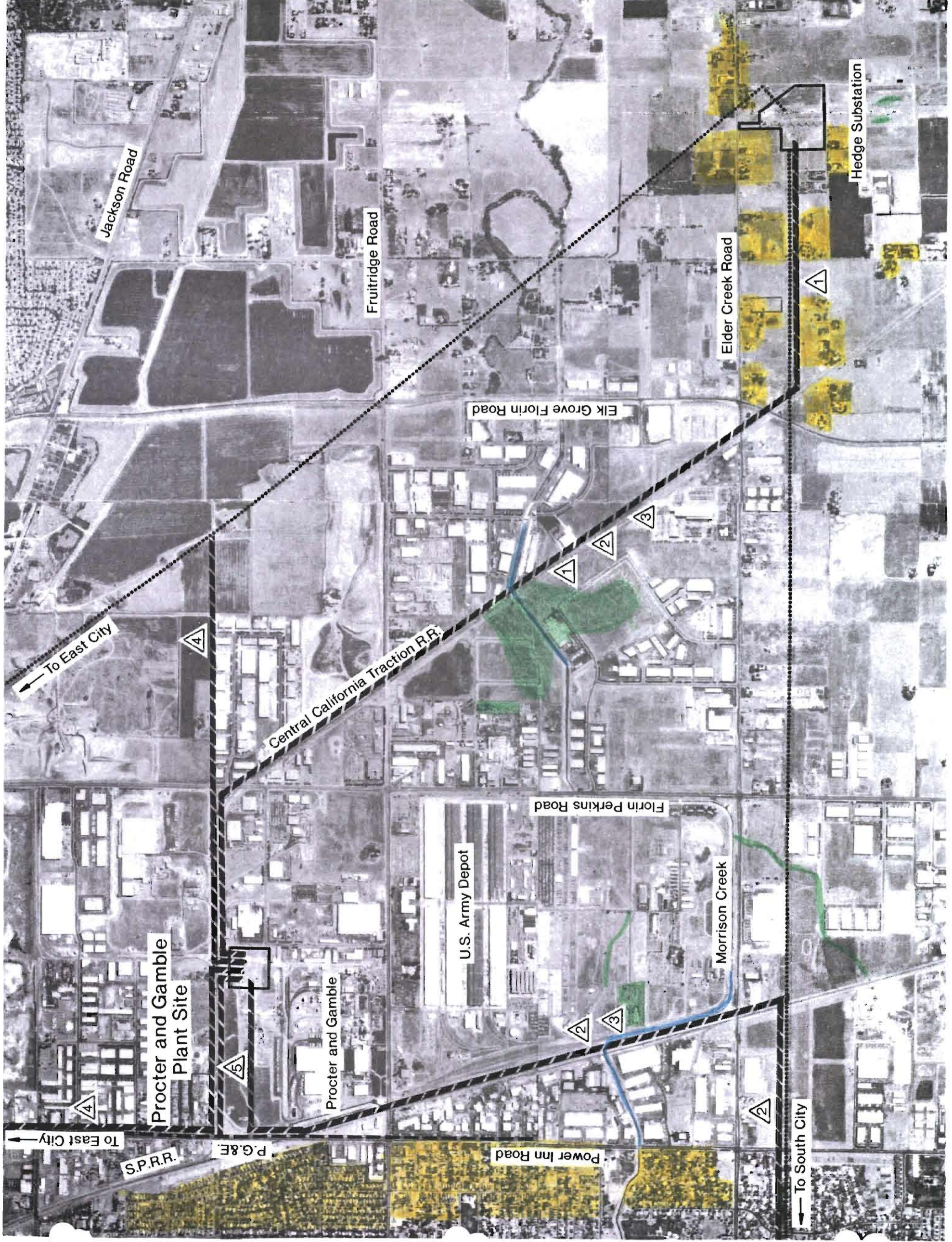
Conclusion

While all of the alternatives discussed above have similar potential biological impacts to the preferred Alternative 6, the preferred transmission line route is the shortest (1.2 miles) and can be constructed in such a manner as to avoid and/or mitigate any potential environmental impacts. The fact that Alternative 6 will not result in any significant environmental impacts, coupled with projected solid system performance, significant cost benefit for reduced SMUD system losses, and high plant reliability due to a loop-in interconnection, was the reason for the selection of Alternative 6 as SCA's preferred transmission route.

References:

SCA, Procter and Gamble Cogeneration Project AFC, September 1993 (including all references to Dames and Moore and Ebasco documents in the Biology Section).

Dames and Moore, Transmission Routing Study for Power Systems Additions, December 1991.



115KV ALTERNATIVES

- ① Procter & Gamble / Hedge T/L
- ② Hedge / South City Loop-in T/L plus Procter & Gamble / South City T/L
- ③ South City / Hedge #1 & #2 Loop-in T/L
- ④ East City / Hedge Loop-in T/L plus Procter & Gamble / East City T/L

WHEELING ALTERNATIVE

- ⑤ P.G.&E. 115kv Interconnect

LEGEND

High Resource Sensitivity

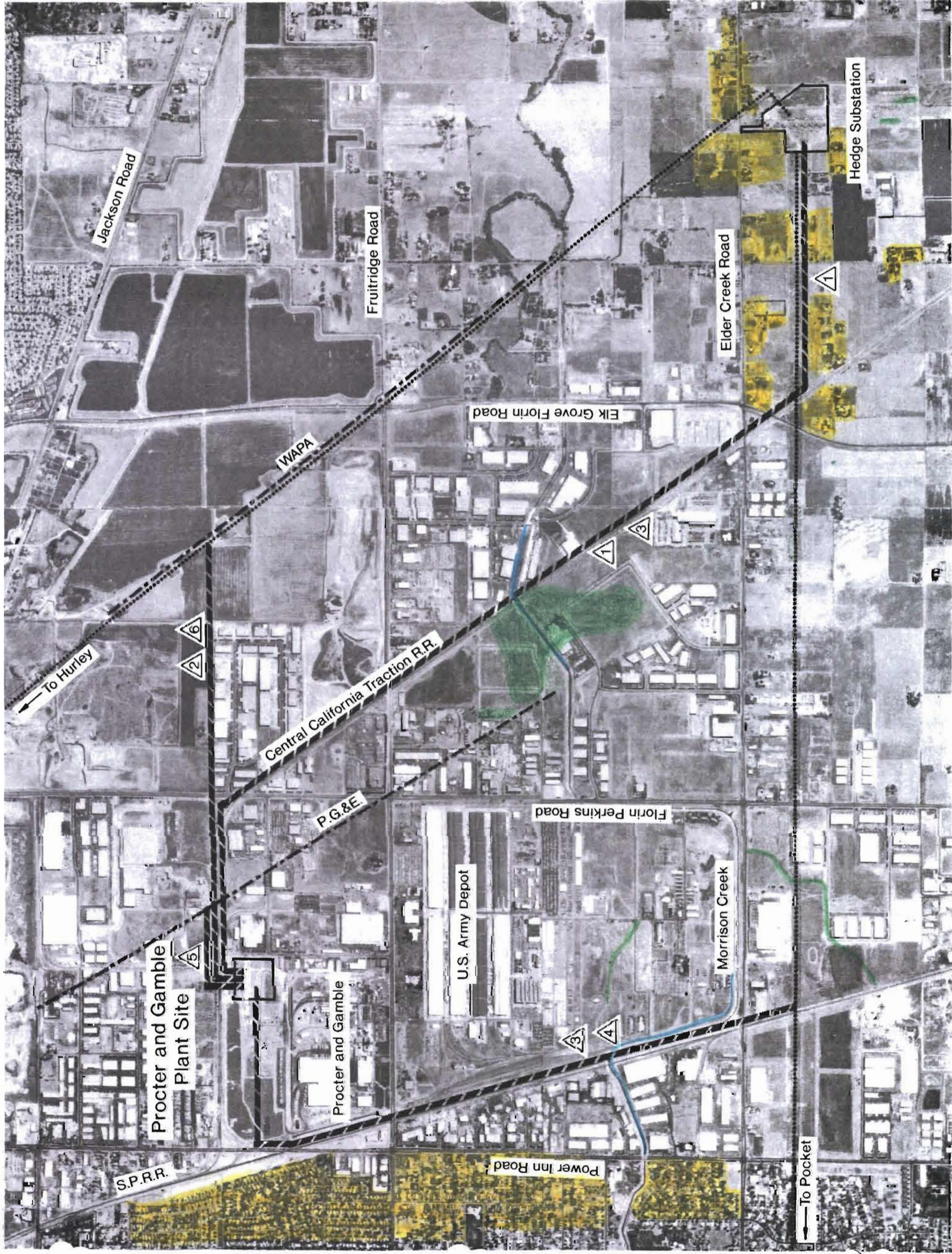
- Biology
- Land Use
- Visual
- Hydrology
- Prime Agricultural Land
- Cultural

Procter & Gamble Co-Gen Project

Transmission Routing 115kv Alternatives



Figure 3.15-5



230KV ALTERNATIVES

- ① Procter & Gamble / Hedge T/L
- ② Hedge to Hurley Loop-in T/L
- ③ Hedge to Pocket Loop-in T/L
- ④ Lake to Pocket Loop-in T/L

WHEELING ALTERNATIVES

- ⑤ P.G.&E. 230kv Interconnect
- ⑥ WAPA 230kv Interconnect

LEGEND

High Resource Sensitivity

- Biology
- Land Use
- Visual
- Hydrology
- Prime Agricultural Land
- Cultural

**Procter & Gamble
Co-Gen Project**

**Transmission Routing
230kv Alternatives**



Figure 3.15-6