

Russell City Energy Center

***Appendix 5-A
PG&E Route Evaluation Study for the
Natural Gas Pipeline***

May 2001

Russell City Energy Center AFC

May 2001

Pacific Gas and Electric Company

77 Beale Street
San Francisco, CA 94105
Mailing Address
Mail Code B16A
P.O. Box 770000
San Francisco, CA 94177
415/973-7000

Via Mail & Fax

March 29, 2001



Mr. Chad Driskill
Calpine Corporation
6700 Koll Center Parkway, Suite 200
Pleasanton, CA 94566

Subject: Calpine/Bechtel Joint Venture – Russell Energy Center

Dear Mr. Driskill:

On March 1, 2001, Pacific Gas and Electric Company (PG&E) received from Calpine Corporation and Bechtel (Applicant) a request for Preliminary Application for Service for gas service for the proposed Russell Energy Center (Facility) to be located near the intersection of Whittell Street and Enterprise Avenue, in Hayward, California. PG&E now provides Applicant with results of its Preliminary Application for Service. For the purpose of this study, PG&E based its review upon natural gas service for a maximum load of 4000 MMBtu/hr at the requested Facility. It is assumed that the proposed Facility will require natural gas service throughout the year, and that gas will be required by June of 2003.

Any future changes to the service requirements for the Facility or PG&E's system prior to commencement of service to the currently proposed Facility may impact these results.

Gas Service from PG&E's Line 153

PG&E's Standard Facility Design for prevailing service delivery pressure is to tap PG&E's Line 153 near the intersection of Depot Road and Clawiter Road and install approximately 4,800 feet of 10-inch service line to Applicant's proposed Facility. PG&E estimates a prevailing service delivery pressure of approximately 120 psig downstream of the meter set. PG&E will provide an elevated delivery pressure of approximately 250 psig by installing 4,800 feet of 16-inch gas service pipeline from PG&E's Line 153 to the proposed Facility.

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Route Descriptions:



PG&E's preferred route would tap into PG&E's Line 153 near the intersection of Depot Road and Clawiter Road, and proceed west to the X-Tra Lease property at 3600 Depot Road. The route would then turn south across private property along the east property line to Enterprise Avenue, and then proceed west to Whitsell Drive, then south approximately 600 feet on Whitsell Drive to the Facility.

PG&E has identified several possible alternatives to this preferred option, which are included on the attached map. Please be aware that as PG&E proceeds with engineering this project, PG&E's preferred route may change.

Costs:

PG&E has determined that cost allocation for this project will be under the provisions of PG&E's Rules 2, 15 and 16. Costs are order of magnitude estimates of +/- 50%. A summary table is provided below, and a brief description follows:

Applicant's Estimated Costs for Standard Facilities Design:

Standard Facilities at prevailing service delivery pressure from PG&E's Line 153	Total
a. 200 feet of 10-inch steel service pipe extension	\$39,000
b. Ultrasonic meter set	\$801,000
f. ITCC (35% of a., and b.)	\$294,000
Total cost to Applicant for Standard Delivery Service:	\$1,134,000

Applicant's Estimated Costs for Elevated Service Delivery Pressure

Special Facilities costs for Elevated Service Delivery Pressure from PG&E's Line 153:	Total
a. 4,800 feet of 16-inch steel service pipe (incremental)	\$386,000
b. ITCC (35% of a.)	\$135,000
c. Cost-of-Ownership charges, Equivalent One-Time Payment option (on a.)	\$254,000
Total Special Facilities costs for service at Elevated Service Delivery Pressure:	\$775,000
Total Cost to Applicant for Standard plus Special Facilities costs for service at Elevated Service Delivery Pressure:	\$1,909,000

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Standard Facilities at Prevailing Service Delivery pressure from PG&E's Line 153:

The costs do not include land right acquisition.

Allocation of costs to Applicant to provide Standard Facilities at Prevailing Service Delivery pressure to the Facility from PG&E's Line 153 are estimated to be \$840,000. ITCC is estimated to be \$294,000, for a total cost of \$1,134,000.

Special Facilities at Elevated Delivery Pressure.

Allocation of costs to Applicant to provide Elevated Service Delivery pressure to the Facility from PG&E's Line 153 are estimated to be \$386,000 for Incremental costs. ITCC is estimated to be \$135,000, Cost-of-Ownership of \$254,000 for a total Special Facilities cost of \$775,000. The total cost for Special Facilities elevated service delivery pressure option is \$1,909,000.

Next Steps:

PG&E now provides Applicant with requirements for the next step in the gas connection process.

Applicant should submit to PG&E a Final Application for Gas Service. The application should include the following:

- A written request for Final Application for Gas Service
- An updated Cogen / Power Plant Interconnection Information Sheet
- The gas service delivery option selected
- The estimated annual gas usage of proposed Facility
- A site map of the Facility with the meter set location identified
- Confirmation of Applicant's preferred gas service pipeline connection option to include route and diameter of pipeline
- A cash advance of \$100,000 for a Standard Delivery Pressure Option, or \$125,000 for an Elevated Service Delivery Pressure Option

This cash advance is to initiate, not complete, the engineering required to develop the project to a point where PG&E can proceed with construction. The total costs for this phase will be determined as PG&E proceeds with detailed engineering and land work; however, based on previous projects of this

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magnitude, PG&E estimates the cost to be approximately 7 ½ percent of the total project cost, but does not include the cost of long lead-time material. This does not include purchase of long lead-time items, nor land acquisition for easements and rights-of-way.

The work that is required prior to construction is to:

- Survey and develop the selected route
- Develop construction drawings
- Negotiate easements and rights-of-way
- Finalize pipeline route
- Develop detailed job estimate, including meter set design
- Obtain final job approval
- Identify and order long lead-time material

PG&E will request additional funds to continue this phase of work as the job progresses by providing Applicant with a cost advance payment schedule as the engineering progresses. Should Applicant fail to provide cost advances as requested, PG&E will stop work. If the work does not proceed, the unused balance of the cash advance, if any, will be returned to Applicant.

Please forward the cash advance made out to PG&E to:

Pacific Gas and Electric Company
Attn: Rod Boschee
Mail Code: B16A
P.O. Box 770000
San Francisco, CA 94177

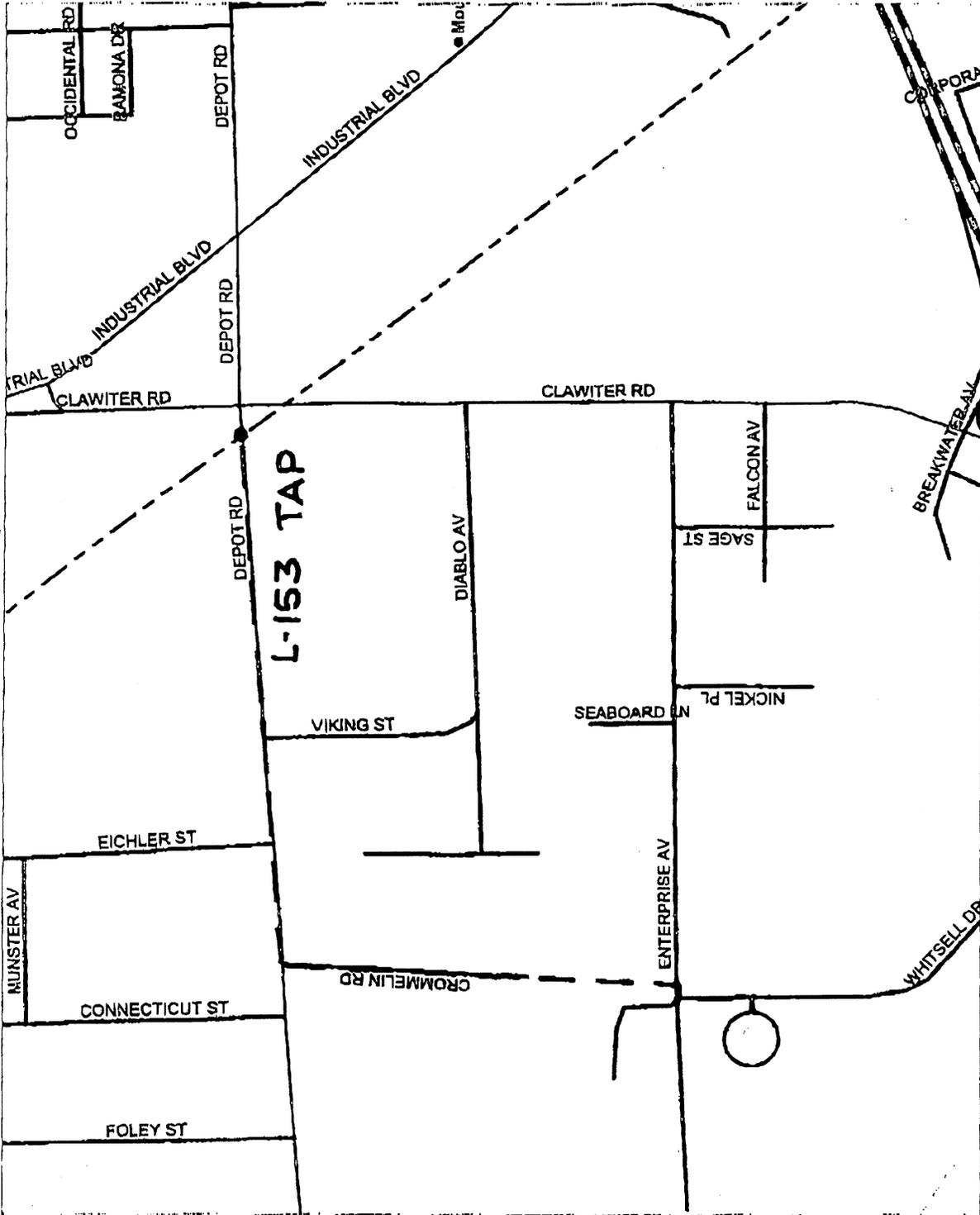
If you have any questions about this information, please call me at 415-973-2908 or Mike O'Brien at 415-973-5652.

Sincerely,

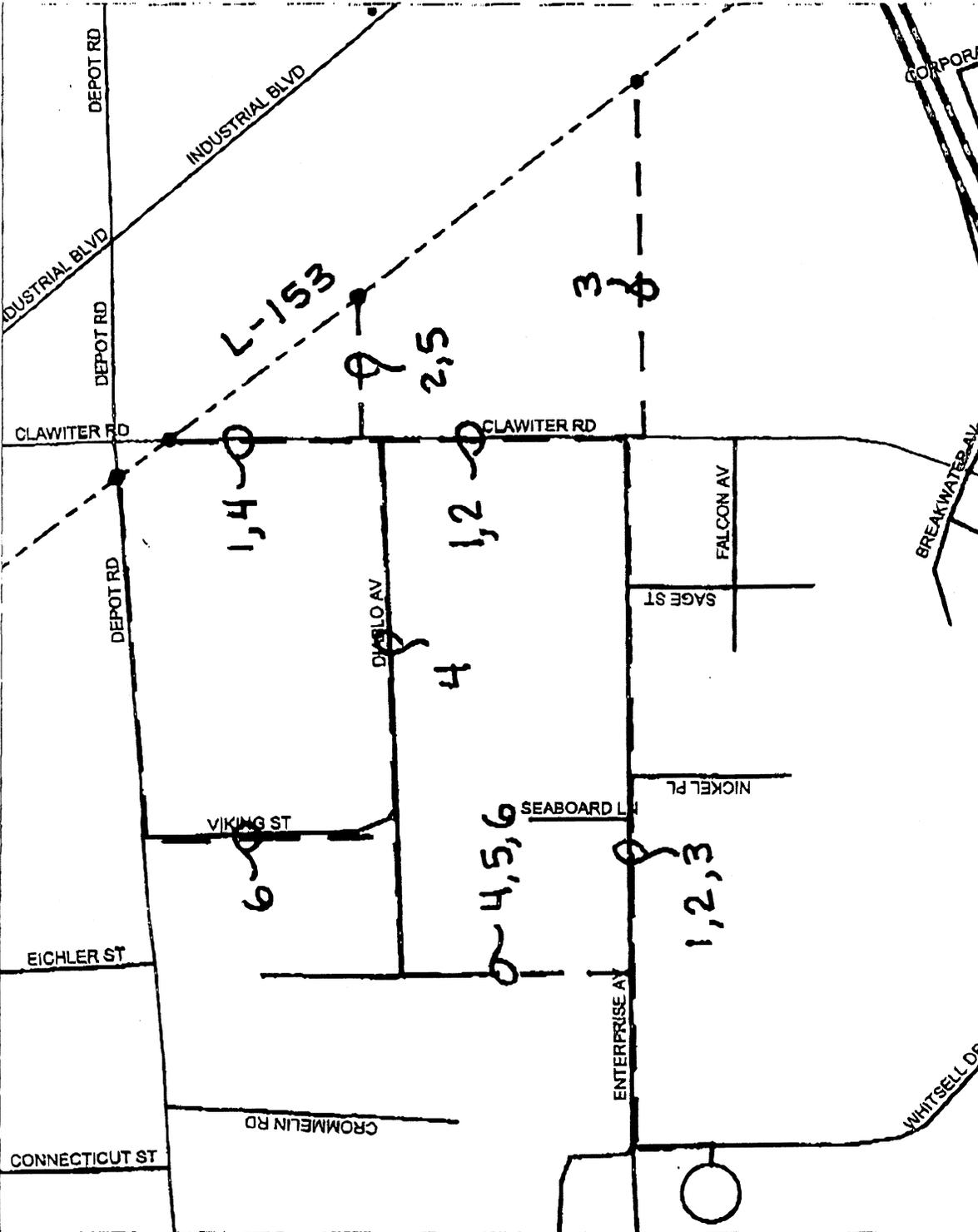
A handwritten signature in cursive script that reads 'Rod Boschee'. Below the signature, the initials 'KB' are written.

Rod Boschee
Manager, Contracts Development and Management

PG&E Confidential Data - Russell City Energy Center - PG&E's Preferred Route



PG&E Confidential Data - Russell City Energy Center - Alternative Routes



SCALE 1 : 6,745



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