

## DOCKETED

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<b>Project Title:</b>	Mission Rock Energy Center
<b>TN #:</b>	207160-5
<b>Document Title:</b>	Appendix 2B SoCal Gas Study
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<b>Filer:</b>	Sabrina Savala
<b>Organization:</b>	Mission Rock Energy Center, LLC
<b>Submitter Role:</b>	Applicant
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<b>Docketed Date:</b>	12/31/2015

Appendix 2B  
SoCalGas Routing and  
Construction Study





Douglas D. Spahr, P.E.  
Sr. Account Manager



## Calpine Confidential Information

Via Email

July 3, 2014

Mr. Peter So, P.E.  
Development Manager  
Calpine Corporation  
4160 Dublin Boulevard, Suite 100  
Dublin, CA 94568

Southern California  
Gas Company

[www.socalgas.com](http://www.socalgas.com)

555 W. Fifth Street  
Los Angeles, CA  
90013-1040  
M.L. GT20C3

**Subject: Calpine – Santa Paula, Preliminary Engineering Study by  
Southern California Gas Company’s (“SoCalGas<sup>®</sup>”) CWA # 91406**

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Dear Mr. So:

Thank you for Calpine’s preliminary engineering study request for gas transportation service to a new electric generation facility (Generation Facility) located at 1025 Mission Rock Road, Santa Paula, California. Pursuant to the Collectible Work Authorization (CWA # 91406), which is attached to and made a part of this letter, SoCalGas presents the results of its preliminary engineering study for the Generation Facility below.

## SUMMARY

Based on the information Calpine provided<sup>1</sup>, the costs for establishing gas transportation service to the Generation Facility are estimated at \$25.0 and \$15.7 million for the two proposed routes. These total costs include direct costs, indirect costs and the January 1, 2014<sup>2</sup> effective Income Tax Component of Contributions and Advances (ITCCA)<sup>3</sup> at 35%. The costs in the summary table below are in 2014 dollars.

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<sup>1</sup> Collectible Work Authorization, WO # 94106

<sup>2</sup> <http://www.socalgas.com/regulatory/tariffs/tm2/pdf/4565.pdf>

<sup>3</sup> <http://www.socalgas.com/regulatory/tariffs/tm2/pdf/PS-IV.pdf>

Cost Component / Route	Telegraph Rd Route (MM\$)	Railroad Easement Route (MM\$)
Direct Materials	5.9	4.3
Direct Contract Labor	3.5	2.3
Direct Company Labor	.5	.4
Other Direct Charges	4.6	2.1
ROW Acquisitions	*	*
Jack Bore & HDD Installations	**	**
Overheads (indirect costs)	4.6	3.0
ITCCA	5.6	3.5
Total Estimated Cost (2014\$)	25.0	15.7

\* Right of Way costs pending formal real estate evaluation and appraisal.

\*\*Jack Bore and Horizontal Directional Drill (HDD) installation cost pending engineering evaluation and plan/profile drawings

The estimate for the Telegraph Road route does not include the cost of obtaining any permits or licenses for night work that may be required on this public roadway.

The Railroad Easement route requires a comprehensive private right-of-way study in order to complete the feasibility of using this pathway for the interconnecting service pipeline. The feasibility of and acquisition cost of these private rights has not been determined yet as Calpine has requested that SoCalGas not contact the property owners at this time.

Construction is estimated to take approximately five months for the Telegraph Road route alternative and four months for the Railroad Easement option.

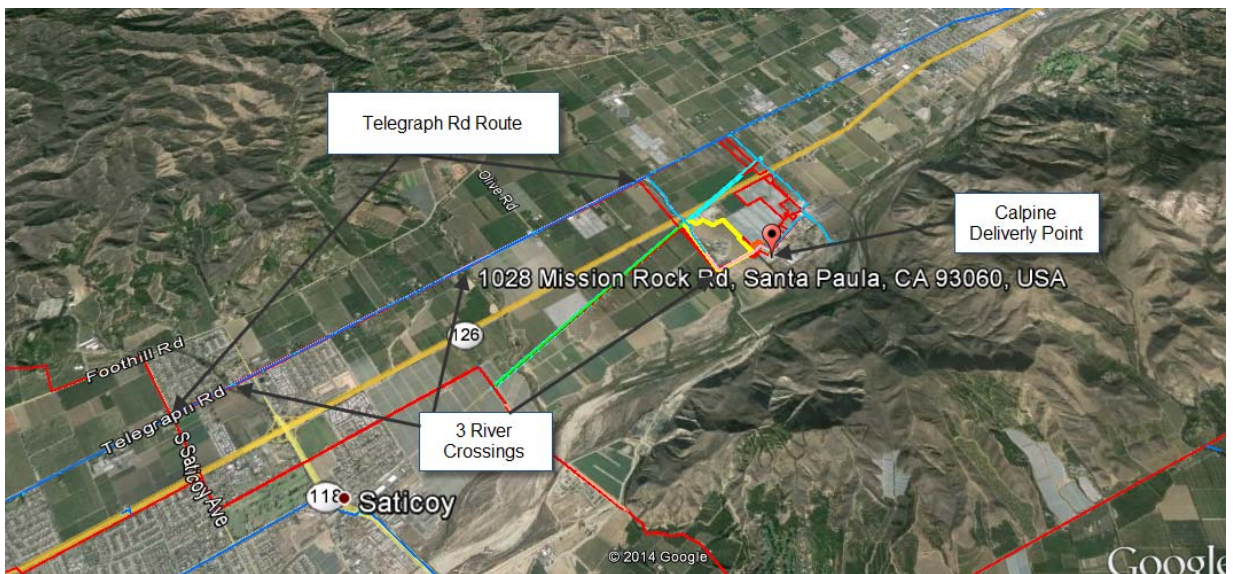
This construction schedule estimate includes an average time allotment for directional drill bore crossings under the waterways. Difficult bore crossings under waterways could increase the construction schedule by approximately one month for each route alternative. Difficult crossings would also increase permitting requirements and inspection fees to various impacted agencies.

This estimate includes all freight and shipping costs to get the pipe, pipe fittings and other heavy material components to the construction site. Estimated costs for pipe include protective coatings so the pipe arrives at the construction site ready for below ground installation.

## PIPELINE ROUTES

Two routes were explored by SoCalGas for serving the Calpine Santa Paula location. Both routes would initiate from a dual connection to Line 404 and Line 406 and terminate at the proposed Calpine Santa Paula site. The Telegraph Road route transverses through public right-of-way franchise area. The Railroad Easement route crosses mostly private property to arrive at the Calpine site.

### Telegraph Road Route



Assuming worst case permit conditions, we expect the Telegraph Road alternative to take approximately five months to construct once we have all materials and have received all permits. This estimate does not include the cost of obtaining any special permits or licenses for night work that may be a required in a state highway or city right of ways or for working within the river or water way areas. Note, for scheduling purposes, it may not be possible to complete waterway crossings during the rainy season. Unusually wet weather could result in additional construction activities and special storm water handling requirements. Delays due to above average wet weather conditions will result in extending the construction timeline and impact cost.

This route estimate assumes a river crossing using an existing bridge. The bridge crossing may ultimately not be feasible due to the age and condition of the existing bridge structure, which would result in the directional drill installation of the 16 inch

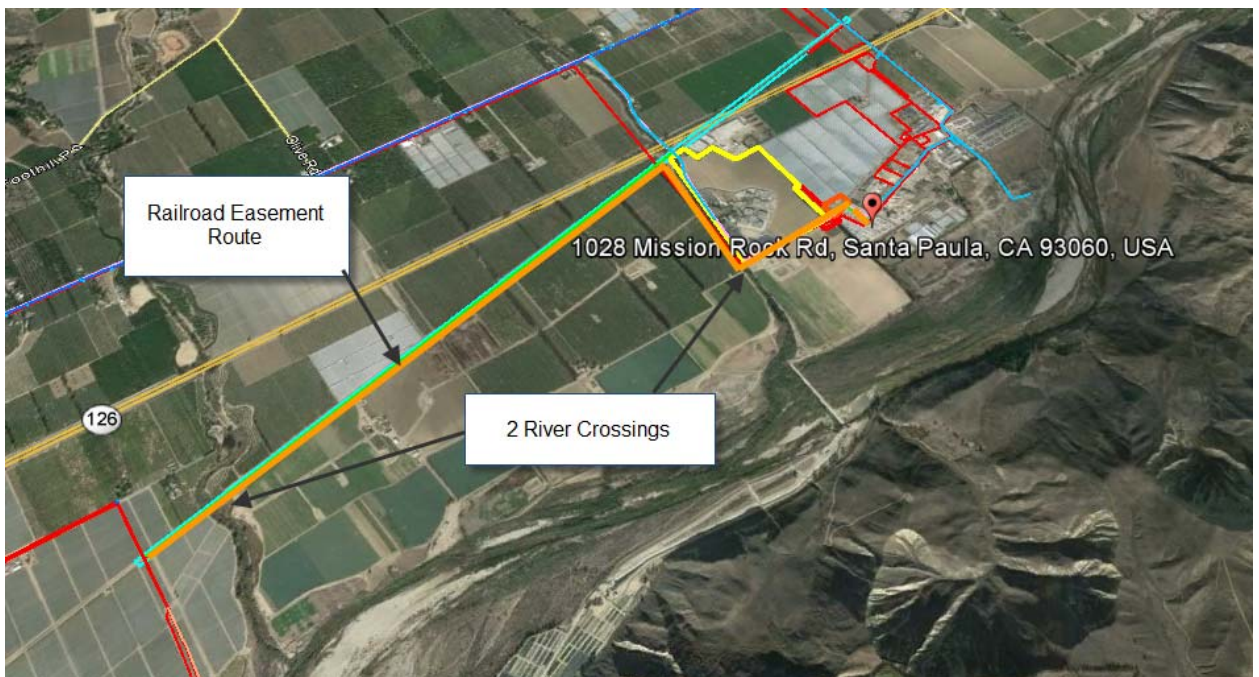
pipeline at a depth which would not impact the river bed. The direction drill installation will be assessed at a later date if it is a requirement for this river crossing.

This route will also require the bore or direction drill installation of the pipeline under the existing state highway (SR126). This will require a Caltrans permit approval and increases engineering design time.

Depending on soil conditions, depth of crossing, and method of installation (jack bore/direction drill/hand tunnel operations) the actual cost of these crossings is difficult to estimate without additional investigations.

Near the Calpine site, this route will require access to the County Detention Facility, which may result in additional security fees which have not been included in this estimate.

### Railroad Easement Route



This route may require the removal of several trees within the existing farm adjacent to the proposed pipeline route.

It must be noted that as this route transgress across active farm land it is assumed that there will be soil contaminants encountered, which will require special excavation activities to remain in compliance with health and safety standards. Average

conditions have been assumed for this estimate. Any special excavation activities, soil handling, testing and disposal activities above average would add to the actual installation cost.

The railroad route will require two directional drill installations to complete the crossing of two active water ways. Work within the river or waterway areas may not be possible during the rainy season. Or, above average wet weather may result in additional construction activities which could extend the construction timeline and add to Calpine's expense.

This route option will also require access to the County Detention Facility, which may result in additional security fees. Additional security costs have not been included in this estimate.

Construction time for the Railroad Easement option is estimated at approximately four months.

### **Right-of-Way Analysis**

The Private Easement property is now owned by private interests. Therefore, SoCalGas® would need to acquire easements from the underlying fee owner and the garner the fee owner's agreement for installation in this location.

This estimate assumes that a ten (10) foot wide permanent easement and a fifty (50) foot wide temporary construction easement (TCE) can be obtained from the private landowners.

## **MATERIALS**

### **Pipeline**

The Telegraph Road route would require approximately 24,557 feet of sixteen inch (16"), 0.375" wall thickness, X-60 / 65 grade pipe with fusion bonded epoxy (FBE) coating.

The Railroad Easement route would require approximately 14,200 feet of sixteen inch (16"), 0.375" wall thickness, X-60 / 65 grade pipe with fusion bonded epoxy (FBE) coating.



## **Meter Set Assembly (MSA)**

SoCalGas<sup>®</sup> will require at least an approximate 80' x 100' plot located on the perimeter of Calpine's premises with adequate ingress and egress to safely complete the installation and perform continuing operations and maintenance work. SoCalGas prefers access through a separate SoCalGas<sup>®</sup> controlled gate to the site to minimize labor costs associated with operating and maintaining the necessary measurement, communications and control service equipment.

The Meter Set Assembly would generally consist of the following components, subject to a formal SoCalGas Engineering Design:

- Sixteen inch (16") inlet and outlet piping and headers
- Ultrasonic Meter
- One large double barrel horizontal filter separator
- Dry gas filter system for the bypass run
- Isolation block valves
- One-way check valve
- Flow computer
- Gas Chromatograph
- Analyzer shelter
- Instrument power shelter

## **POWER AND COMMUNICATION SERVICES**

Calpine would be responsible for installing and maintaining power to the MSA typically through a 120-volt, 30 to 100 amperes service circuit breaker panel located in a non-hazardous location of the MSA yard per SoCalGas<sup>®</sup> and National Electric Code standards. Calpine shall also install and maintain separate dedicated phone lines per the Utility's specifications. Typically, the MSAS requires two standard analog two wire dial-up telephone lines (with dedicated telephone numbers that are not a switchboard extension), and possibly one four-wire lease line that is connected to a SoCalGas<sup>®</sup> dedicated circuit. The lease line would be used for connecting Calpine's site location with the Utility's Gas Control operations center. The communication system enables the Utility to communicate with, operate and maintain the Utility's measurement, monitoring and control equipment (including but not limited to the flow computer, gas chromatograph, programmable logic control and control valves).

## **CONSTRUCTION SCHEDULE**

Assuming normal planning and construction schedules, SoCalGas<sup>®</sup> would require approximately eighteen (18) to twenty-four (24) months from the completion of contracts and payment of the contract estimated amount in order to complete the planning, design and construction of the service facilities needed for Calpine Santa Paula project. This construction schedule is only an estimate and all timeframes for completing Calpine Santa Paula project set forth in this letter are subject to change based on circumstances existing at the time of any actual contractual arrangement to do the work.

## **ASSUMPTIONS AND ADDITIONAL LIMITATIONS**

This preliminary engineering estimate is provided at Calpine's request and makes use of the information currently available to SoCalGas<sup>®</sup>. Several factors could contribute to the increase or decrease of the costs, including, but not limited to, environmental unknowns, permit requirements, existing unknown substructures, sudden fluctuations in the market prices of materials, etc. It is likely that the actual construction costs for Calpine particular project could vary significantly from this preliminary estimate based on the actual design, permitting and construction variables associated with this specific project. If Calpine would prefer to improve the accuracy of this estimate, SoCalGas suggests that Calpine execute a new work order and scope of work to encompass the detailed engineering design of the service lateral to Calpine's Santa Ana project. SoCalGas<sup>®</sup> estimates that a detailed engineering study to improve the cost accuracy to  $\pm 15\%$  would require funding in the range of \$200,000 to \$350,000 and will take six to twelve months to complete.

If Calpine decides to proceed further with this project, SoCalGas would need to prepare, execute and receive funding for a new collectible work authorization with an agreed upon scope of work. As previously stated, Calpine would be responsible for the actual incurred project costs, not the estimated costs. All estimates are subject to change and Calpine will be responsible for the actual costs associated with Calpine's request for gas transportation service.

SoCalGas<sup>®</sup> construction costs continue to rise with increasing costs of labor and materials and this estimate expires upon the earlier of six (6) months from the date of this letter or a change in the assumptions underlying the preparation of the estimate.

SoCalGas® will not be held liable for any direct or indirect damages, costs or expenses associated in any manner with this cost estimate or Calpine's use thereof. Any use by Calpine is at Calpine's own risk and should factor in the above risks and limitations.

Thank you for your consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas D. Baker". The signature is written in a cursive style with a large initial "D" and a long horizontal stroke.

Attached: Collectible Work Authorization, WO # 91406 (dated 4/9/2014)



**SOUTHERN CALIFORNIA GAS COMPANY  
COLLECTIBLE WORK AUTHORIZATION**

Date Prepared 4/9/2014  
 Estimate Prepared By Paul Simonoff  
**Purchaser Name and Job Address**  
 Name Calpine Corporation  
 Address 4160 Dublin Blvd., # 100  
 City Dublin State CA Zip 94568  
 Phone # 925 - 557-2224  
 Purchaser's SS# \_\_\_\_\_  
**Purchaser requests and authorizes The Gas Company to perform the following work:**

WO # 91406  
 Work Request # 0 IO # 30075849  
 ML GT 12 B7 Phone # 213 - 244 - 3116  
**Billing Name and Address, If Different**  
 Name Calpine Corporation  
 Address 4160 Dublin Blvd., # 100  
 City Dublin State CA Zip 94568  
 Phone # 925 - 557-2224  
 Or Federal Tax ID # \_\_\_\_\_

Preliminary route assessment and cost evaluation for proposed quick start facility located at: 1025 Mission Rock Road, Santa Paula, CA.

TOTAL COMPANY LABOR	TOTAL MATERIALS	TOTAL THIRD PARTY CHARGE (including contractor fees)	TOTAL PAYING OTHER	SUBTOTAL	TICCA	TOTAL ESTIMATES
24,670.00	-	-	1,600.00	26,270.00	9,194.00	35,464.00

Purchaser agrees to pay The Gas Company the actual cost - the estimated amount is due and payable in advance and any additional balance within 30 days of invoice.

The estimated cost of the Work is furnished only for the convenience of the Purchaser. It is intended to reflect The Gas Company's general past experience of the cost of similar work under favorable conditions. Because of unforeseen contingencies and other factors, the actual cost may be considerably higher or lower than this estimate. Therefore, the estimate is not a warranty by The Gas Company of the actual cost. The actual cost shall include overhead costs contained in The Gas Company's appropriate billing formula. Purchaser agrees to pay within 30 days of invoice any additional amounts whenever The Gas Company determines the cost of Work completed exceeds any amounts previously paid. When labor costs exceed the estimate, The Gas Company may, but is not obligated to notify Purchaser, and cease all Work until approval for the increased cost is obtained from Purchaser. If the total actual cost is less than the deposit(s), The Gas Company will refund the difference (without interest). Purchaser agrees that if The Gas Company brings any action to enforce the provisions of this Agreement, it shall be entitled to recover its attorney's fees and costs, in addition to any other relief to which it is entitled.

Purchaser agrees that any excavation made by Purchaser that is to be entered by Gas Company employees, agents or subcontractors shall conform to all requirements of the State of California construction safety orders, particularly the provisions of Article 6, Sections 1539 through 1547, which relate to the safe construction of trenches and excavations. Purchaser further agrees to take all reasonable care in protecting The Gas Company's property from damage, including the use of procedures which will not place any undue strain on pipes during excavation and backfill or cause damage to pipe protective coatings.

Purchaser shall indemnify, defend and hold harmless The Gas Company from and against any and all liability of every kind and nature for - (i) injury to or death of persons, including without limitation, employees or agents of The Gas Company or of Purchaser; (ii) damage, destruction or loss, consequential or otherwise, to or of any and all property, real or personal, including without limitation, property of The Gas Company, Purchaser or any other person; (iii) violation of local, state or federal laws or regulations (excluding environmental laws or regulations); and (iv) including attorney's fees incurred in defending against such liability or enforcing this provision - resulting from or in any manner arising out of or in connection with the performance of the Work including the indemnity obligations imposed on The Gas Company by the owner of the Job Address if other than Purchaser, by the local jurisdiction in which the Work is performed or which issues a permit for any part of the Work, excepting only those liabilities arising from the sole negligence or willful misconduct of The Gas Company or its agents compared to any other person.

Purchaser shall indemnify, defend and hold The Gas Company harmless from and against any and all liability (including attorney's fees incurred in defending against such liability or in enforcing this provision) arising out of or in any way connected with the violation of or compliance with any local, state or federal environmental law or regulation as a result of pre-existing conditions at the Job Address, release or spill of any pre-existing hazardous materials or waste, or out of the management and disposal of any pre-existing contaminated soils or groundwater, hazardous or non-hazardous, removed from the ground as a result of the Work ("Pre-Existing Environmental Liability"), including but not limited to liability for the costs, expenses and legal liability for the environmental investigations, monitoring, containment, abatement, removal, repair, cleanup, restoration, remedial work, penalties, and fines arising from the violation of any local, state or federal law or regulation, attorney's fees, disbursements, and other response costs. As between Purchaser and The Gas Company, Purchaser agrees to accept full responsibility for and bear all costs associated with Pre-Existing Environmental Liability. Purchaser agrees that The Gas Company may stop Work, terminate the Work, redesign it to a different location or take other action reasonably necessary to complete the Work without incurring any Pre-Existing Environmental Liability.

AGREED AND ACCEPTED 6/2/14  
 (DATE)  
 THE GAS COMPANY BY Dale Davis  
 NAME (PRINT)  
Dale Davis  
 SIGNATURE

PURCHASER Calpine Corporation  
 (NAME OF COMPANY)  
Alexandre B. Makler Senior Vice President, West Region  
 PURCHASER OR AUTHORIZED REPRESENTATIVE (PRINT) TITLE  
Alexandre B. Makler  
 SIGNATURE OF PURCHASER OR AUTHORIZED REPRESENTATIVE

**PAYMENT INFORMATION**

AMOUNT RECEIVED \_\_\_\_\_ CASH CHECK CHECK # \_\_\_\_\_

DATE PAYMENT TURNED IN:	BY (NAME OF EMPLOYEE):	PAYMENT TURNED IN AT: