

Mail Stop 3561

September 25, 2008

Robert P. May
Chief Executive Officer
Calpine Corporation
50 West San Fernando Street
San Jose, California 95113

Re: Calpine Corporation
Form 10-K for Fiscal Year Ended December 31, 2007
Filed February 29, 2008
File No. 1-12079

Dear Mr. May:

We have reviewed your filing and have the following comments. You should comply with the comments in all future filings, as applicable. Please confirm in writing that you will do so and also explain to us how you intend to comply by providing us with your proposed disclosure. If you disagree, we will consider your explanation as to why our comments are inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filings. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for Fiscal Year Ended December 31, 2007

Environmental profile, page 11

1. We note your description of your geothermal power generation facilities located in the Geysers region of northern California and that you own and operate 17 of these facilities. Please insert a small-scale map showing the location and access to each property, grouping them as may be appropriate, as required by Instruction 3(b) to Item 102 of Regulation S-K. Please note the EDGAR program now

accepts Adobe PDF files and digital maps, so please include these maps in any amendments that are uploaded to EDGAR. It is relatively easy to include automatic links at the appropriate locations within the document to GIF or JPEG files, which will allow figures and diagrams to appear in the right location when the document is viewed on the Internet. For more information, please consult the EDGAR manual, and if additional assistance is required, please call Filer Support at (202) 551-3600 for Post-Acceptance Filing Issues or (202) 551-8900 for Pre-Acceptance Filing Issues.

Description of power generation facilities, page 12

2. We note you have acquired leases for your geothermal power facilities. Please disclose the following information concerning your properties, grouping and summarizing them as may be appropriate:
 - A description of all interests in your properties, including the terms of all underlying agreements.
 - The basis and duration of your claims or leases, mineral rights, surface rights, claims and/or concessions.
 - An indication of the type of claim or concession such as placer or lode, mineral lease or land grant, exploration or exploitation, whether the mining claims are State or Federal mining claims, mining leases, or mining concessions.
 - The conditions that must be met to retain your claims or leases, including quantification and timing of all necessary payments.
 - The area of your claims or leases, either in hectares or acres.

Please ensure that you fully discuss the material terms of the land or mineral rights securing agreements, as required under paragraph (b)(2) of Industry Guide 7.

Risk factors, page 35

3. We note you state your geothermal energy reserves may not be adequate for your geothermal operations. Please disclose your proven and probable geothermal energy reserves, state your current estimates of the expected duration of economic power generation, the estimated rate of decline in productivity and/or utilization. Please note geothermal reserves are specifically excluded from oil and gas producing activities under Rule 4-10 of Regulation S-X.

4. Please forward to our engineer as supplemental information, and not as part of your filing, your information that establishes the legal, technical, and economic feasibility of your materials designated as reserves, as required by Section C of Industry Guide 7 or Exchange Act Rule 12b-4. The information requested includes, but is not limited to:
 - Property and geologic maps
 - Description of your sampling and assaying procedures
 - Drill-hole maps showing drill intercepts
 - Representative geologic cross-sections and drill logs
 - Description and examples of your cut-off calculation procedures
 - Cutoff grades used for each category of your reserves and resources
 - Justifications for the drill hole spacing used to classify and segregate proven and probable reserves
 - A detailed description of your procedures for estimating reserves
 - Copies of any pertinent engineering or geological reports, and executive summaries of feasibility studies or mine plans which including the cash flow analyses
 - A detailed permitting and government approval schedule for the project, particularly identifying the primary environmental or construction approval(s) and your current location on that schedule.

To minimize the transfer of paper, please provide the requested information on a CD, formatted as Adobe PDF files and provide the name and phone number for a technical person our engineer may call, if he has technical questions about your reserves.

In the event your company desires the return of this supplemental material, please make a written request with the letter of transmittal and include a pre-paid, pre-addressed shipping label to facilitate the return of the supplemental information.

If there are any questions concerning the above request, please contact Mr. George K. Schuler, Mining Engineer at (202) 551-3718.

Item 7. Management's Discussion and Analysis

Commodity Margin by Segment, page 48

5. We note your presentation and discussion of segment commodity margin in MD&A on pages 48 and 54. As such, we believe you should revise either to (1) present the SFAS 131 required disclosures or (2) include a cross reference in this section to segment footnote 16 in the financial statements. We refer you to the guidance under FAQ Regarding the Use of Non-GAAP Financial Measures Question No. 19.

Capital Spending and Project Financing, page 61

6. Please revise the first paragraph of this subsection to discuss in dollar terms the estimated cost of the Russell City Energy Center project.

Item 9A Controls and Procedures

Disclosure Controls and Procedures, page 80

7. We note your statement that disclosure controls and procedures were effective at the reasonable assurance level. Please explain and revise in future filings, if true, that your disclosure controls and procedures are designed to provide reasonable assurance of achieving their objective. In the alternative, remove the reference to the level of assurance of your disclosure controls and procedures. Please refer to Section II.F.4, SEC Release No. 33-8238 for guidance.

Item 13. Certain Relationships and Related Transactions, and Director Independence, page 114

8. Please revise to describe your policies and procedures for the review, approval, or ratification of any transaction required to be reported under Item 404(a) of Regulation S-K. Please see Item 404(b) of Regulation S-K.

Financial Statements and Notes

2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation, page 151

9. We note your disclosures that "[o]n May 3, 2007, OMEC, an indirectly wholly owned subsidiary and the owner of the Otay Mesa Energy Center, entered into a 10-year tolling agreement with SDG&E ...provides for a put option for OMEC to

sell and a call option by SDG&E to buy, the Otay Mesa facility at the end of the tolling agreement.” Advise us and disclose in more detail the significant terms of the tolling agreement, and the put and call options. Addressing relevant GAAP literature, explain to us how you determined that deconsolidation of the entity is appropriate effective the second quarter of 2007.

Property, Plant and Equipment, Net, page 157

10. We note your disclosures that you capitalize costs incurred in connection with the development of geothermal properties in your geothermal operations. In this regard please supplementally explain, with a view toward expanding disclosure, your capitalization policy for exploration and development costs. In this regard, please advise whether you have ever incurred exploration costs and if so, how drilling and any other exploration type costs are treated in your financial statements. Your policy should be more specific in describing the nature of each type of costs capitalized in addition to a discussion of when you begin capitalizing them. Tell us and consider disclosing such costs as component amounts in a footnote to the financial statements. Cite the relevant authoritative GAAP literature, or accepted practice, that you relied upon or analogized to for your accounting. We may have further comments.

16. Segment and Significant Customer Information, page 205

11. Please provide a reconciliation of the segments’ assets to the consolidated assets. Reference is made to paragraph 32c of SFAS 131.
12. Please disclose the segments’ capital expenditures in accordance with paragraph 28b of SFAS 131 or advise us why you are not required to do so.

Form 10-Q for the Quarterly Period Ended June 30, 2008

Financial Statements and Notes

1. Basis of Presentation and Summary of Significant Accounting Policies

Deconsolidations, page 7

13. We note your deconsolidation of RockGen during the first quarter of 2008 resulting from the call option to absorb the majority of expected losses and residual returns from the entity such that you are not the primarily beneficiary. In that regard, tell us and disclose in more detail the option terms that form the basis behind your conclusion that you are not the primary beneficiary.

12. Commitments and Contingencies

Potential Loss on Deconsolidation/Sale of Auburndale Power Plant, page 27

14. We note that you consolidated Auburndale, a variable interest entity, as of June 30, 2008. In order to better understand your accounting, explain to us how you consider paragraph 14 of FIN 46R in determining that you are the primary beneficiary in consolidating the entity in light of the fact that Pomifer, an unrelated party, holds a preferred interest in the entity that entitles Pomifer to 70% of the entity's cash distributions through 2013.
15. Please disclose whether or not a reserve audit has been performed over the last three years.
16. Green energy or renewable energy may receive premium pricing compared to conventional energy sources. Please disclose the average electrical power pricing received from your geothermal power plants compared to conventional power generating activities.
17. Please describe your policy for amortizing capital expenditures for your geothermal projects and whether you use your geothermal reserve estimates as a basis for this calculation. Do you amortize using units of production or an estimated project life?

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Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the adequacy and accuracy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;

- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filings or in response to our comments on your filings.

You may contact Scott Stringer, Staff Accountant, at (202) 551-3272 or Andrew Mew, Accounting Branch Chief at (202) 551-3377 if you have any questions regarding the financial statements and related matters. Please contact Ramin Olson, Attorney-Advisor, at (202) 551-3331 or me at (202) 551-3725 with any other questions.

Sincerely,

H. Christopher Owings
Assistant Director