



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4628

September 28, 2009

Stanley W. Farmer
Vice President and Chief Financial Officer
SulphCo, Inc.
4333 W. Sam Houston Parkway North
Suite 190
Houston, Texas 77043

Re: SulphCo, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2008
Filed March 6, 2009
Form 10-Q for the Fiscal Quarter Ended June 30, 2009
Filed August 4, 2009
Definitive Proxy Statement on Schedule 14A
Filed April 30, 2009
File No. 001-32636

Dear Mr. Farmer:

We have reviewed your filing and have the following comments. Please provide a written response to our comments. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. 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 filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or 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 the Fiscal Year Ended December 31, 2008

Business Development Activities Update, page 4

1. Provide us with support for your statement that you “continue to see a high level of interest” for your product as well as for the reference to “increased interest” in the third paragraph on page 5.

2. Regarding your statement that you continue to be “in discussions with potential North American customers,” explain to us the extent of these discussions and the number of potential customers.

European Testing Activities, page 6

3. Identify your “European testing partner” and your basis for not disclosing its identity in the filing.

Middle East, page 6

4. Here, and in several places in the filing, you refer to the Middle East. In each instance, please disclose the specific countries in the Middle East to which you refer.

Southeast Asia, page 6

5. Tell us the name of the customer referenced in the first two paragraphs on page 7 and your basis for not disclosing the name of that customer.

Business Experience of Executive Officers, page 15

6. We note ambiguities in the biographical sketches for Messrs. Chambers and Schattenmann. Please expand your disclosure to include the specific information required by Item 401(e) of Regulation S-K. Revise your disclosure as necessary to provide the month and year for each position held by each director and executive officer during the past five years and the name and principal business of each such employer, and eliminate all gaps and ambiguities in that regard.

Controls and Procedures, page 40

Changes in Internal Control over Financial Reporting, page 40

7. You state that you identified no change in your internal control over financial reporting during your fiscal quarter ended December 31, 2007. Please amend your filing to provide this disclosure for the correct fiscal quarter ended December 31, 2008, as required by Item 308(c) of Regulation S-K.

Statements of Operations, page F-6

8. We note you present the “deemed dividend” on the face of your Statements of Operations as an addition to your “net loss,” for purposes of determining the “net loss attributable to common stockholders” used in your calculation of loss per share. Please tell us how you concluded that this presentation was appropriate, given the guidance in paragraphs 8 and 9 of SFAS 128. Please also provide us with any other underlying supporting accounting literature upon which you based your conclusion.

Note 6 – Income Taxes, page F-23

9. Please tell us what consideration you gave to the accounting and disclosure requirements of FIN 48, and why you concluded that any uncertain tax positions did not require recognition, if true, and why all required disclosures were unnecessary.

Form 10-Q for the Fiscal Quarter Ended June 30, 2009

Note 2 – Convertible Notes Payable, page 6

10. We note in your disclosure that, in July 2009, you elected to prepay in full the outstanding convertible notes payable, and all accrued but unpaid interest thereon. However, it is not clear whether such payment was made in cash, shares or a combination of cash and shares. Further in this regard, please tell us what consideration you gave to the accounting requirements of FSP APB 14-1, and how, if true, you concluded that such guidance did not apply to your first and second quarter reporting in 2009. However, if you determined that such guidance did apply, please provide us with your analysis and the resultant accounting you determined and applied; include your analysis and treatment of any “embedded derivatives,” such as the prepayment option, which, in accordance with paragraph 10 of FSP APB 14-1, would require that you apply the guidance in SFAS 133 and its related interpretations, to determine if any of those features must be separately accounted for as a derivative instrument.

Definitive Proxy Statement on Schedule 14A, filed April 30, 2009

General

11. Please confirm in writing that you will comply with the following comments relating to your definitive proxy in all future filings, and provide us with an example of the disclosure you intend to use in each case. After our review of your responses, we may raise additional comments.
12. Refer to our comment 6 above. Revise the biographical sketches of Mr. Ziedman on page 7 and Messrs. Chambers and Schattenmann on page 24 accordingly.

Compensation Discussion and Analysis, page 25

General

13. Your disclosure sets forth several factors – for example, job performance, relevant individual knowledge and skill, demonstrated qualifications, and reputation – that impact your compensation decisions. Notwithstanding your disclosure that you do not utilize a definite formula to determine each element of compensation, please provide additional disclosure and analysis of how the individual performances and contributions of each named executive officer factored into the base salary and incentive awards received. For example, discuss elements of individual performance, both quantitative and qualitative, and specific contributions to key roles your compensation committee considered in its evaluation of your named executive officers and how these factored into your compensation decisions. See Item 402(b)(2)(vii) of Regulation S-K.

What are the objectives of SulphCo's compensation program?, page 25

14. A stated objective of your compensation program is to be “competitive with other companies with whom [you] compete for talent”. Identify these competitor companies. If you have benchmarked different elements of your compensation against different groups of competitor companies, please identify the companies that comprise each such group. With respect to each element of compensation paid to your named executive officers, disclose the actual percentiles as compared to the compensation paid by the competitor companies. Refer to Item 402(b)(2)(xiv) of Regulation S-K.

Certain Relationships and Related Party Transactions, page 34

15. Expand your discussion of the payments made by you to MWH. Your disclosure should include whether these payments were obligated under an agreement or contract, and the terms, conditions, and duration of your payment obligation to MWH. Tell us whether any such agreement or contract was included as an exhibit in a prior filing and identify such filing, or tell us why such agreement or contract was not filed. See Item 601(b)(10)(iii) of Regulation S-K.

Closing Comments

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 filing to be certain that the filing includes 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 accuracy and adequacy 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 filing or in response to our comments on your filing.

You may contact Donald Delaney at (202) 551-3863, or Kimberly Calder, Assistant Chief Accountant, at (202) 551-3701 if you have questions regarding comments on the financial statements and related matters. Please contact Tracey L. McNeil at (202) 551-3392 or me with any other questions.

Sincerely,

H. Roger Schwall
Assistant Director