



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

Mail Stop 7010

March 26, 2009

Mr. Dan J. Cohrs
Executive VP and CFO
Rentech, Inc.
10877 Wilshire Boulevard, Suite 710
Los Angeles, CA 90024

**RE: Forms 10-K and 10-K/A for the fiscal year ended September 30, 2008
Form 10-Q for the period ended December 31, 2008
File No. 1-15795**

Dear Mr. Cohrs:

We have reviewed these filings and have the following comments. If you disagree with a comment, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. 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 or may not 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 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 THE YEAR ENDED SEPTEMBER 30, 2008

General

1. Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings.

Item 1A - Risk Factors, page 16

We rely on Agrium as distributor of the nitrogen fertilizer products we produce at the East Dubuque plant, page 26

2. Please file copies of the Distribution Agreement executed on April 26, 2006 between Rentech and Agrium, or advise us why that agreement is not required to be filed pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K.

Item 7 – Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 31

General

3. Your senior credit agreement contains covenants that set minimum EBITDA requirements, maximum capital expenditures and minimum liquidity thresholds, among other restrictions. Some of these covenants required waivers and/or modifications as noted in your Form 8-K dated January 13, 2009. If it is reasonably possible that you will not be in compliance with any of your material debt covenants, please disclose the required ratios/amounts as well as the actual ratios/amounts as of each reporting date. This will allow readers to understand how much cushion there is between the required ratios/amounts and the actual ratios/amounts. Please also consider showing the specific computations used to arrive at the actual ratios/amounts with corresponding reconciliations to US GAAP amounts, if necessary. See Sections I.D and IV.C of the SEC Interpretive Release No. 33-8350 and Question 10 of our FAQ Regarding the Use of Non-GAAP Financial Measures dated June 13, 2003.
4. We note your discussion of the impact of the current business environment. We urge you to find ways to provide additional quantitative disclosures that convey to investors the current and ongoing risks that you face due to developments in the current business environment. We believe that you should provide detailed rather than general disclosures regarding these risks and exposures. For example, you should discuss the impact the developments in the current business environment could have on your revenues and correspondingly loss from operations.

Liquidity and Capital Resources, page 53

5. Your disclosures indicate that you fund your operations primarily from cash flow from REMC operations, debt issuances and equity offerings. Please further enhance your disclosures to discuss significant changes in your expected sources and uses of cash from period to period and the impact of these changes on your liquidity and capital resources. Please describe how you determined that

remaining availability under the Credit Facility will continue to be sufficient to meet your needs.

Item 8 – Financial Statements and Supplementary Data

Consolidated Statements of Operations, page F-5

6. In order not to imply a greater degree of precision than exists, revise your presentations of net income (loss) per share throughout the filing to round only to the nearest cent.

FORM 10-K/A FOR THE YEAR ENDED SEPTEMBER 30, 2008

Summary Compensation Table, page 15

7. The information in the summary compensation table should be provided for each of the company's last three completed fiscal years as required by Item 402(c)(1) of Regulation S-K.
8. Please note that you must include the dollar value of bonus (cash and non-cash) earned by each NEO during the fiscal year. Since, based on your disclosure, the amount of the bonus appeared to be calculable at the time you filed Form 10-K, footnote disclosure alone is not sufficient. Further, the amount of the bonus must be included in the column for total compensation. It appears that your total compensation column does not include this amount. Confirm that in future filings you will include the dollar amount of cash and non-cash bonus earned in the summary compensation table, regardless of whether you have determined when to pay the bonus at the time you file your Form 10-K. Our comment also applies to your Form 8-K dated February 12, 2009.

FORM 10-Q FOR THE PERIOD ENDED DECEMBER 31, 2008

General

9. Please address the above comments in your interim filings as well, as applicable.

* * * *

Please respond to these comments within 10 business days, or tell us when you will provide us with a response. Please provide us with a response letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please file your supplemental response on EDGAR as a

Mr. Dan J. Cohrs
Rentech, Inc.
March 26, 2009
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correspondence file. 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 reviewed by the staff to be certain that they have provided all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed 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 their filings;
- 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 Dorine Miller, Financial Analyst, at (202) 551-3711 or, in her absence, Pamela Long, Assistant Director, at (202) 551-3760 if you have any questions regarding legal or disclosure matters. Please contact Jeffrey Gordon, Staff Accountant, at (202) 551-3866 or, in his absence, the undersigned at (202) 551-3769 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Rufus Decker
Accounting Branch Chief