

August 23, 2007

Mail Stop 6010

Richard M. Weinroth, Esq.
Secretary
Renegy Holdings, Inc.
301 West Warner Road, Suite 132
Tempe, AZ 85284-2961

**Re: Renegy Holdings, Inc.
Amendment to Registration Statement on Form S-4
Filed August 9, 2007
File No. 333-144110**

Dear Mr. Weinroth:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, 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 raise additional comments.

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.

Unaudited Pro Forma Financial Statements, page 104

Note 1 – Summary of Accounting for Merger, page 108

1. You state here that Catalytica stockholders will receive one share of Renegy common stock for each share of Catalytica common stock held. Please reconcile this to the disclosure on page 3 which states that Catalytica stockholders will receive one-seventh of a share of Renegy common stock for each share of Catalytica common stock held.

Note 2 – Additional Notes related to Pro Forma Adjustments, page 109

2. We note your response to prior comment 2. Please address the following:
- Revise the disclosure here to discuss the basis for the 40% volatility assumption.
 - Revise the disclosure here to provide additional details regarding the marketability discounts. Discuss the factors considered in determining the size of the marketability discount. In this regard, please note the guidance in paragraph 57 of the AICPA's "Valuation of Privately-Held-Company Equity Securities Issued as Compensation."

Catalytica Energy Systems, Inc. Financial Statements, page F-1

General

3. Please update your financial statements in accordance with Rule 3-12 of Regulation S-X. Please note this comment also applies to the Snowflake White Mountain Power, LLC financial statements on page F-60 and the unaudited pro forma financial statements on page 104.

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and 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 Act of 1933 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.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

Richard M. Weinroth
Renegy Holdings, Inc.
August 23, 2007
Page 3

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

You may contact Eric Atallah at (202) 551-3667 or Kevin Vaughn, Accounting Branch Chief, at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. Please contact Eduardo Aleman at (202) 551-3646 or me at (202) 551-3805 with any other questions.

Sincerely,

Peggy Fisher
Assistant Director

cc(via facsimile): Donna Petkanics, Wilson Sonsini Goodrich & Rosati