



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4631

Mail Stop 4631

December 15, 2009

Via U.S. mail and facsimile

Mr. Arthur S. Reynolds
Chief Financial Officer
ThermoEnergy Corporation
124 West Capitol Avenue, Suite 880
Little Rock, Arkansas 72201

RE: Form 10-K for the year ended December 31, 2008
Forms 10-Q for the period ended March 31, 2009, June 30, 2009, and
September 30, 2009

File No. 1-12164

Dear Mr. Reynolds:

We have reviewed these filings and have the following comment. If you disagree with the 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 supplemental 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 comment 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 DECEMBER 31, 2008

Exhibit 31

Please file an amended Form 10-K with certifications that are in the exact form shown under Item 601(b)(31) of Regulation S-K. The revised certifications should address the following:

- The identification of the certifying individual at the beginning of the certification also includes the title of the certifying individual. Please revise the identification of the certifying individual at the beginning of the certification to exclude the individual's title;
- Please revise the introductory portion of paragraph 4 to also refer to internal control over financial reporting; and
- Please include paragraph 4(b) in the exact form shown under Item 601(b)(31) of Regulation S-K.

Please also ensure that the revised certifications are currently dated and refer to the Form 10-K/A. Refer to Section 246.13 of the Division of Corporation Finance—Compliance and Disclosure Interpretations of Regulation S-K, which can be found at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>. In a similar manner, please file amended Forms 10-Q for the periods ended March 31, 2009, June 30, 2009, and September 30, 2009 with revised certifications.

* * * *

As appropriate, please amend your filings and respond to this comment within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your amendment that keys your response to our comment 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 response to our comment.

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 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 comment, 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.

Mr. Arthur S. Reynolds

December 15, 2009

Page 3 of 3

If you have any questions regarding this comment, please direct them to Nudrat Salik, Staff Accountant, at (202) 551-3692 or, in her absence, to the undersigned at (202) 551-3769.

Sincerely,

Rufus Decker
Accounting Branch Chief