

Mail Stop 3561

September 2, 2008

Richard E. Kessel
President and Chief Executive Officer
Environmental Power Corporation
120 White Plains Road, 6th Floor
Tarrytown, New York 10591

**Re: Environmental Power Corporation
Registration Statement on Form S-3
Filed August 6, 2008
File No. 333-152807**

Dear Mr. Kessel:

We have limited our review of your filing to those issues we have addressed in our 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.

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.

Registration Statement on Form S-3

General

1. General Instruction I.B.1 of Form S-3 requires that a registrant conducting a primary offering have an aggregate market value of voting and non-voting common equity held by non-affiliates of \$75 million or more. Please tell us how you believe you have satisfied this requirement, including providing us with calculations showing how you have satisfied this requirement as of a date within 60 days of the date of filing of your registration statement.

Information Incorporated by Reference, page 19

2. Please refer to the Current Report on Form 8-K dated February 29, 2008 as having been filed on March 6, 2008, rather than March 5, 3008.

Exhibit 5.1 – Opinion of Pierce Atwood LLP

3. We note that counsel's opinion is limited to the state law of New Hampshire and the Delaware General Corporation Law; however, we note that the indenture governing the debt securities is governed by New York law. Please remove this limitation from your opinion. In the alternative, please provide us with your analysis as to how counsel can opine that the debt securities are valid, legal and binding obligations of the company if the opinion is limited to the laws of the state of New Hampshire and the Delaware General Corporation Law.
4. We note that counsel's opinion contains significant assumptions regarding the future issuance of the securities being registered. Please confirm that you will file an unqualified opinion each time a takedown occurs that omits all these assumptions. Please note that you may file the unqualified opinion under Rule 462(d) or under cover of Form 8-K.

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 filings reviewed by the staff to be certain that the filings include all information required under the Securities Act of 1933 and 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness 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 connection with our review of your filings or in response to our comments on your filings.

We will consider a written request for acceleration of the effective date of the registration statement as a 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 statements. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

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 Blair Petrillo, Attorney-Advisor, at (202) 551-3550, Mara Ransom, Legal Branch Chief, at (202) 551- 3264, or me at (202) 551-3720 with any questions.

Sincerely,

H. Christopher Owings
Assistant Director

cc: Scott Pueschel
Pierce Atwood LLP
Via Facsimile