

Mail Stop 3561

February 22, 2007

Richard E. Kessel, President and Chief Executive Officer
Environmental Power Corporation
One Cate Street, 4th Floor
Portsmouth, N.H. 03801

**Re: Environmental Power Corporation
Amendment No. 1 to Registration Statement on Form S-3
Filed January 31, 2007
File No. 333-138999
Form 10-Q for Fiscal Quarter Ended September 30, 2006
File No. 1-32393**

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.

1. We note your response to comment 1 in our letter dated December 27, 2006. Please revise to include your current stock price. In addition, please disclose that the selling stockholders are offering 51% of the total number of shares held by non-affiliates and the percentages offered by each of Black River (39%) and Fort Mason (9.6%), as stated in your response letter.

Selling Stockholders, page 17

2. Please disclose the net proceeds received in the November 2006 private placement. Please also disclose the total payments made to the selling stockholders, including placement or finders fees. Please also discuss any potential payments, including liquidated damages.
3. Regarding the business development agreement with Cargill, an affiliate of Black River, please disclose the payments made to Cargill, including securities.

Form 10-Q for the Fiscal Quarter Ended September 30, 2006

4. We note your response to comment 10 of our letter dated December 27, 2006. We concur that you have a beneficial conversion feature with respect to your convertible preferred stock. We do not concur however with your concluding remarks with respect to recording the beneficial conversion feature. In this regard, you indicate that the beneficial conversion feature is \$4,288,517, although your final entries to record the beneficial conversion feature are \$539,487. Furthermore, we would anticipate seeing a debit to the preferred stock account for the discount and a credit to additional paid in capital of \$4,288,517 pursuant to paragraph 5 of EITF Issue no. 98-5. Then, in accordance with paragraph 8 of Issue no. 98-5, we would anticipate seeing the entire discount immediately charged through retained earnings since you point out that the preferred stock is convertible at the date of issuance. In this regard, we would expect to see the entire amount of \$4,288,517 classified as a loss available to common shareholders. Please revise or advise us.

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.

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You may contact Robert Babula, Staff Accountant, at (202) 551-3339 or Michael Moran, Accounting Branch Chief, at (202) 551-3841 if you have any questions regarding comments on the financial statements and related matters. Please contact Scott Anderegg, Staff Attorney, at (202) 551-3342 or Peggy Kim, Senior Staff Attorney, at (202) 551-3411 or me at (202) 551-3720 with any other questions.

Sincerely,

H. Christopher Owings
Assistant Director

cc: Scott Pueschel, Esq.
Pierce Atwood LLP