

October 22, 2007

Mail Stop 6010

Neal R. Verfueth
President and Chief Executive Officer
Orion Energy Systems, Inc.
1204 Pilgrim Road
Plymouth, WI 53073

**Re: Orion Energy Systems, Inc.
Registration Statement on Form S-1/A
Filed October 2, 2007
File No. 333-145569**

Dear Mr. Verfueth:

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.

Some of the intellectual property we use in our business, page 15

1. We note that your response to prior comment 9 is limited to patents; however, prior comment 9 addressed all intellectual property – not solely patents. Therefore, we reissue the comment.

Industry and Market Data Forecasts, page 25

2. Refer to the last bullet point in your response to prior comment 3. If you have not obtained the consent from the sources of the data you cite, please tell us how you determined that the data remains current and reliable.

Use of Proceeds, page 26

3. With a view toward clarifying the disclosure in response to prior comments 11 and 12, please tell us how you determined the size of the offering required to support your anticipated future growth.

Gross Margin, page 40

4. The first bullet point in your response to prior comment 17 indicates that the margin on your backlog will generally be consistent with the trend disclosed for the first fiscal quarter. However, since your current disclosure on page 40 describes both increased and decreased margin trends, it is unclear how investors are to know the effects on margin of your current backlog. Please revise for clarity.
5. We note your response to the third bullet point of prior comment 17. Please discuss any uncertainty regarding the effect that your shared savings type sales and energy management services might have on your margins and other historic results of operations.

Research and Development, page 40

6. We note your disclosure in response to prior comment 18. Please replace vague disclosure like “efforts relating to” with specific information that investors can use to evaluate your activities.

Indebtedness, page 48

7. We note your response to prior comment 21; however, since the waiver was dated in March 2007, it is unclear how a discussion of your liquidity and capital resources would be complete without describing the issues that caused the default and how you addressed them. Therefore, we reissue the comment.

Stock-based Compensation, page 52

8. Please refer to comment 25. We recognize your response and will delay our final assessment of your response pending inclusion of the estimated IPO price range.

Products, page 63

9. It is unclear where you have disclosed the quantitative disclosure by product class as required by Regulation S-K Item 101(c)(1)(i). Therefore, we reissue prior comment 28.

Our Customers, page 65

10. We note your response to comment 32. Please provide us with a detailed analysis of why you believe disclosure is not required under Item 101 of Regulation S-K. Include in your analysis citations to any SEC releases or guidance upon which you rely.

Our History and Development, page 67

11. We note your response to prior comment 27. Please clarify whether you discontinued selling products other than those mentioned on page 63.

Executive Compensation, page 72

12. With a view toward clarified disclosure, please expand your response to prior comment 39 to tell us when the committee last met, when they will meet again, and the content of the current proposals that the committee is considering regarding the matters addressed in the comment.

Setting Executive Compensation, page 72

13. We note your response to comment 40. Please disclose the names of the 96 companies contained in the Towers Perrin market report.

Long-Term Equity Incentive Compensation, page 76

14. Please revise your disclosure to more specifically explain how the factors disclosed resulted in a determination that 250,000 shares was the appropriate number.

Severance and Change in Control Arrangements, page 80

15. Please expand the disclosure added in response to prior comment 46 to clarify how you define “market practice” and “competitive.”
16. From the disclosure added in response to prior comment 47, it is unclear how you chose these triggering events over any other triggering events that would represent a “significant change in ownership.” Please revise for clarity.

Director Compensation, page 90

17. Please refer to comment 48. We note that your option grants to directors were intended to compensate directors for past and future services. Please identify the service period intended to be compensated by each option grant.

Principal and Selling Shareholders, page 92

18. Please expand your response to prior comment 50 to tell us how GE Capital Equity Investments makes voting and investment decisions with regard to your securities in a manner that no individuals have or share directly or indirectly beneficial ownership of those securities.
19. Based on the information provided in your response to prior comment 51, we are unable to agree that the transactions in which the registrant sold the selling stockholders the very shares that are now being offered to the public need not be disclosed. See Regulation S-K Item 507. Please disclose all such transactions that occurred within the past three years.

Patrick J. Trotter, page 96

20. We note your disclosure on page 50 about your receipt of a below-market interest rate promissory note from Mr. Trotter. Please discuss the nature and amount of these restatements in your discussion of the related-party transaction with Mr. Trotter. Please also tell us why you should not revise your statement on page 95 about your belief that all related-party transactions were on terms and conditions that were not materially less favorable than you could have obtained from unaffiliated third parties.

Revenue Recognition, page F-11

21. Please refer to prior comment 62. Please tell us and revise to disclose how you apply EITF 00-21 in your accounting for revenues with multiple elements. In your disclosure, it should be clear when you defer revenues, how you measure the deferred amounts and when you recognize the revenues that are deferred. Tell us and disclose how you consider acceptance provisions in your revenue recognition policy.

22. Please refer to prior comments 64 and 65. Please tell us in more detail about the significant terms of your sale-type programs. Please also tell us the significant terms of your agreements with third party finance companies wherein you enter into an exchange for cash and future payments. Explain the nature of the future payments and how you determine the net present value of the future payments.

Net Income (loss) per Common Share, page F-14

23. Please refer to prior comment 66. We note that you adjusted your net income attributable to common shareholders and basic net income per share in response to our prior comment to reflect the participation rights of the preferred shareholders that is required by EITF 03-6 under the two-class method. Please revise to provide the disclosures required by SFAS 154 for the correction of errors, or tell us why the disclosures are not required.

Note F. Temporary Equity and Shareholders' Equity, page F-21

24. Please refer to prior comment 70. Please disclose the method and period over which you are accreting the carrying value to the redemption value.

Exhibits, page II-3

25. We note your response to prior comment 73; however, the exhibits you file should be complete, including all attachments, unless the exhibit is properly filed under Regulation S-K Item 601(b)(2) and you comply with the last sentence of Item 601(b)(2). We note for example, the missing attachments from exhibit 4.10.

Signatures

26. Please do not omit text required on the Signatures page.

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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

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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 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 filing or in response to our comments on your filing.

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.

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 Dennis Hult at (202) 551-3618 or Kaitlin Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have questions regarding comments on the financial statements and related matters. Please contact Joseph McCann at (202) 551-6262 or me at (202) 551-3617 with any other questions.

Sincerely,

Russell Mancuso
Branch Chief

cc (via fax): Steven R. Barth, Esq.—Foley & Lardner LLP
Carl R. Kugler, Esq.—Foley & Lardner LLP