

August 23, 2006

Mail Stop 4561

John V. Moran
Chief Executive Officer
GSE Systems, Inc.
7133 Rutherford Road, Suite 200
Baltimore, MD 21244

Re: **GSE Systems, Inc.**
Registration Statement on Form S-3/A
Filed on July 26, 2005
File No. 333-134569

Dear Mr. Moran:

We have reviewed the above-referenced filing and response letter dated July 25, 2006 and have the following additional comments.

Form S-3

Registration Front Cover

1. Please revise to include the complete registration number of 333-134569.

Calculation of Fee Table

2. Footnote (5) states that paragraph (c) of Rule 457 was used to compute the filing fee. That sub-paragraph, which applies to registered resale transactions, requires that you select the average of the bid and asked prices for one of the five trading days preceding your initial filing of the registration statement on May 30, 2006. As such we do not understand why you use a stock price of \$.67 for 900,000 of the shares and \$.01 for 367,647 of the shares, as the issuance of those shares is not being registered. The fee computed with respect to all shares offered for resale should be computed using the same price that is selected in accordance with the applicable sub-paragraph of Rule 457.

Cover Page

3. Please reorganize the text so that the information in the fourth paragraph is provided before the cross reference to the risk factors. Also, delete the sixth and seventh paragraphs of the final sentence on the cover page. With respect to the sixth paragraph, a contact number of a company employee does not appear key information that investors need to obtain on the cover of the prospectus. With respect to the seventh paragraph, the legalistic disclaimer is not consistent with the requirements of paragraph (d) of Rule 421.

Description of Securities to be Registered, page 13

4. This caption should be eliminated or revised, because the securities being registered are shares of common stock, not “The Preferred Stock” or “The Warrants, NESC Warrant, Exchange Warrant and LMF Warrant” that you reference in the sub-captions of this section and describe thereunder. Much of the information in this section concerns prior transactions and arrangements with the selling shareholders and would be better presented as such. The description of the preferred stock should be presented under the caption “Description of Our Share Capital”, as the rights of common holders you describe in that section are necessarily limited by the preferred stock.

Market Price Information, page 15

5. Please update the information contained in this chart to include market price information for each full quarterly interim period in 2006 and the price information as of the latest practicable date. See Item 201(a) of Regulation S-K.

Determination of Offering Price, page 16

6. Please delete this heading and the related text, which discusses the offering price of preferred stock and warrants that were issued in unregistered transactions. The manner in which the offering prices of those securities was determined in transactions that preceded the filing of the resale registration statement is of limited significance to investors in the offering you are registering.

Selling Security Holders, page 17

7. We refer you to comment 8 of our letter dated June 21, 2006. As previously stated all material transactions with a selling security holder that took place within the past three years must be provided to conform to the requirements of Item 507 of Regulation S-K. We note your statement that “certain of selling shareholders and/or their affiliates provide or from time to time have provided....certain investment banking and other services to us...” Unless specifically discussed

elsewhere in your Form S-3, please identify the selling security holders that have performed the referenced services and discuss the specific services they provided.

8. Please revise the table on page 17 to include the amount of securities of the class to be offered for the selling security holder's account, the amount and (if one percent or more) the percentage of the class to be owned by such security holder after completion of the offering. See Item 507 of Regulation S-K.

Plan of Distribution, page 20

9. We refer you to comment 10 of our letter dated June 21, 2006. We note your revisions, however, we are unable to locate a specific statement that the selling security holders are aware of our position on short sales. Please supplementally confirm that you have alerted the selling security holders to our position on short sales.

Undertakings, page 28

10. We note your response to comment 13 of our letter dated June 21, 2006. Please advise as to the consideration given to providing the undertaking pursuant to Item 512(a)(5)(ii).

Legal Opinion

11. Please specifically identify the number of shares that are being registered in the registration statement and that you are opining on.
12. We refer you to comment 19 of our letter dated June 21, 2006. It appears that your assumption "that at the time of issuance and sale, a sufficient number of shares of Common Stock are authorized and available for issuance," is unnecessary as you will be able to determine whether the shares have been authorized as of the date of your opinion by referring to publicly filed documents and corporate records.
13. The statement in your last paragraph that the opinion "may not be relied on by, nor copies delivered to, any other person or entity without our prior written consent" is inconsistent with the inclusion of the opinion in the filing. The opinion may be relied upon by investors in connection with this registration statement. Please revise accordingly.

John V. Moran
GSE Systems, Inc.
August 23, 2006
Page 4

If you have any questions, please call Adam Halper at (202) 551-3482. If you require additional assistance you may contact me at (202) 551-3462 or in my absence Barbara C. Jacobs, Assistant Director at (202) 551-3730.

Sincerely,

Mark P. Shuman
Branch Chief—Legal

cc: James R. Hagerty and Valerie Pelton
Facsimile: (202) 223-6625