

Mail Stop 4561
Via fax (410) 970-7997

June 8, 2009

John V. Moran
Chief Executive Officer
GSE Systems, Inc.
1332 Londontown Blvd
Suite 200
Sykesville, MD 21784

Re: GSE Systems, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2008
Filed March 16, 2009
Form 10-Q for the Quarterly Period Ended March 31, 2009
Filed May 11, 2009
File no. 1-14785

Dear Mr. Moran:

We have reviewed the above referenced filings and have the following comments. If 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 supplemental 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.

Form 10-K for the Fiscal Year Ended December 31, 2008

General

1. We note from disclosure on page 18 that you conduct operations in the Middle East. Please clarify to us whether your operations in the Middle East include nuclear services or solutions.

2. Iran, Syria and Sudan, countries generally understood to be included in references to the Middle East, are identified by the State Department as state sponsors of terrorism, and are subject to U.S. economic sanctions and export controls. We note that your Form 10-K does not include disclosure regarding contacts with, Iran, Sudan and Syria. Please describe to us the nature and extent of your past, current, and anticipated contacts with the referenced countries, if any, whether through subsidiaries, resellers, retailers, distributors, or other direct or indirect arrangements. Your response should describe any products, equipment, components, technology, and services you have provided to those countries, and any agreements, commercial arrangements or other contacts you have had with the governments of those countries or entities controlled by those governments.
3. We note January 2009 and December 2005 news articles stating that the Emirates Simulation Academy is a joint venture between you, Al Qudra Holding, and another party. We also note that you list Al Qudra on the "Our Partners" page of your website. Lastly, we note several news articles stating that Al Qudra seeks to acquire land in Syria and Sudan for agricultural purposes, and a July 2007 news article stating that Al Qudra sponsored and participated in a Syrian real estate exhibition. Please discuss the materiality to you of these Al Qudra activities, in light of the State Department's designation of Sudan and Syria as state sponsors of terrorism. In this regard, we note that various state and municipal governments, universities and other investors have proposed or adopted divestment or similar initiatives regarding investment in companies that do business with U.S.-designated state sponsors of terrorism. Your discussion should address the potential impact upon your reputation and share value of your association with Al Qudra, given the investor sentiment evidenced by shareholder actions directed toward companies that have operations associated with Syria and Sudan. Please also address the quantitative significance to you of Emirates Simulation Academy.
4. We note the disclosure on page 15 that one of your largest customers is Statoil ASA of Norway. We note from Statoil's website that it conducts operations in Iran, and has entered into an agreement with the Cuban state oil company for exploration and possible petroleum production in Cuba. Cuba is also identified by the State Department as a state sponsor of terrorism and is subject to U.S. economic sanctions and export controls. We note from a May 2004 news article that Statoil won Syria's "May naphtha export trader," for cargo to Syria's state-owned oil company. Please tell us whether Statoil utilizes your solutions or services in its Iranian, Syrian or Cuban operations.

Item 1. Business

Customers, page 13

5. We note that Emerson Process Management and American Electric Power accounted for 16% and 11%, respectively, of your total revenues in 2008. A description of your contractual arrangements with these customers appears warranted. Also, you do not appear to have filed any contracts with these customers. Please provide us with your analysis as to whether you are substantially dependent upon your agreements with these customers for purposes of Item 601(b)(10)(ii)(B) of Regulation S-K.

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

Comparison of Years Ended December 31, 2008 to December 31, 2007, page 32

6. We note your disclosure that the decrease in revenue in 2008 from your ESA project was partially offset by an increase in your fossil fueled power simulation revenue. Please tell us the factors that contributed to this increase in your fossil fueled power simulation revenue. Please also confirm that in future filings you will provide an explanation of the factors that contributed to a material change in your operating results.

Liquidity and Capital Resources

Credit Facilities, page 43

7. Please tell us the nature of the covenants on which you defaulted, the reasons for such default and your estimate of the likelihood that you will be able to comply with the covenants over the next 12 months. Please tell us why you have not disclosed the details of these covenants in your Form 10-K. See Item 303(a)(1) of Regulation S-K and Section IV.C of SEC Release 33-8350.
8. In addition, tell us your consideration to disclose the specific terms of your debt covenants, such as significant required ratios as compared to the actual ratios, for each reporting date. We refer you to Sections I.D and IV.C of Release No. 33-8350.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

9. We note your disclosures as to your exchange rate and interest rate risks. Item 305 of Regulation S-K requires that certain information be provided with regard to market risk sensitive instruments using one of three disclosure alternatives. Please tell us how your disclosure conforms to one of these disclosure alternatives.

Item 8. Financial Statements and Supplementary Data

Consolidated Statement of Operations, page F-5

10. We note that the Company recognizes revenue (a) from the design and sale of simulator systems, (b) from the sale of PCS, training and consulting services and (c) from the sale of software licenses that do not require significant modification or customization. Please tell us how you considered presenting separate line items for product and services revenues and the related cost of revenues pursuant to Article 5-03(b)(1) and (2) of Regulation S-X. Also, tell us your consideration to present revenues from your bundled arrangements, which include both product and services (i.e. system design contracts) separately from the sale of your unbundled product and service revenues.

Note 2. Summary of Significant Accounting Policies

Revenue Recognition, page F-10

11. We note that the Company enters into contracts for (a) the design and manufacturing of simulations systems, (b) to provide post customer support services to your simulation systems and (c) to provide consulting and training services. For instance, your disclosures on page 6 refer to the completion of an order from ESA to supply five simulators and an integrated training program. Tell us whether these arrangements are entered into as a single contract or a group of contracts and tell us how you considered the guidance in paragraphs 35 to 41 of SOP 81-1 in determining whether these arrangements should be accounted for on a combined or segmented basis.
12. We note from your disclosure on page F-10 that the Company enters into contracts with multiple elements and recognizes revenue in accordance with EITF 00-21. Please explain which arrangements you consider to be multiple element arrangements. Also, tell us each element included in your multiple element arrangements and explain how you recognize revenue for each element. Further,

tell us the amount of revenue recognized from the multiple element arrangements for the periods presented.

Note 8. Fair Value of Financial Instruments, page F-20

13. We note that you consider investments with original maturities of three months or less to be cash equivalents. Tell us how you considered providing disclosures pursuant to the requirements of paragraphs 32 to 35 of SFAS 157 related to your cash equivalent investments. In addition, please tell us and in the future revise to disclose the composition of your cash and cash equivalents and the amounts held in each type of instrument.

Note 12. Series A Convertible Preferred Stock, page F-26

14. We note your disclosures on page F-26 where you indicate that the fair value of the preferred stock was determined by an independent appraisal. As you appear to have open registration statements which incorporate by reference this Form 10-K, please describe the nature and extent of the third party appraiser's involvement in the determination of the fair value of these instruments and tell us how you considered the guidance in Rule 436(b) of Regulation C regarding the reference to this specialist. Please see Question 141.02 of our Compliance and Disclosure Interpretations related to Securities Act Sections at <http://www.sec.gov/divisions/corpfin/guidance/sasinterp.htm> for guidance.

Item 11. Executive Compensation (Information Incorporated by Reference from the Definitive Proxy Statement Filed April 30, 2009)

Compensation Discussion and Analysis, page 16

15. Your disclosure in this section suggests that your compensation committee may have used information from other companies to determine compensation levels for your named executive officers. Please clarify the precise nature of your benchmarking activities. If you benchmark either total or individual elements of compensation against comparable companies, identify these comparable companies. Also, clarify how you benchmark, such as whether you set a specific percentile or range for total compensation or individual elements. See Item 402(b)(2)(xiv) of Regulation S-K and Question 118.05 of our Regulation S-K compliance and Disclosure Interpretations, available on our website.

Base Salary, page 17

16. Although you provide general information regarding the factors your compensation committee considered in setting base salaries for 2008, your

disclosure should provide substantive analysis and insight into how the compensation committee determined the actual salaries paid to your named executive officers. With a view toward providing expanded disclosure in future filings, please tell us how the compensation committee determined the specific salary adjustments made for each of your named executive officers in 2008. For example, we note your statement that base salaries are targeted with an appropriate competitive range. Please explain how peer company compensation levels influenced your compensation committee's decision in setting base salaries for 2008. Also, we note your statement that base salary is determined, in part, on the basis of individual performance. Please explain how your compensation committee assessed individual performance when making compensation decisions. Identify any individual performance factors or changes in responsibilities that influenced salary decisions.

Long-Term Incentive Awards, page 18

17. As with your discussion of base salaries, your discussion regarding equity grants awarded to your named executive officers in 2008 is also very general. Please tell us more specifically how your compensation committee evaluated and weighed the factors identified on page 18 in determining the specific equity grants made to your officers in 2008.

Employment Contracts and Termination of Employment, page 22

18. In future filings, please quantify the estimated payments and benefits that would be provided to each of your named executive officers in connection with termination or a change in control of the company. See Item 402(j)(2) of Regulation S-K and Instruction 1 to Item 402(j).

Item 13. Certain Relationships and Related Transactions, and Director Independence

19. You incorporate the information required by Item 13 of Form 10-K by reference to your proxy statement to the 2009 annual stockholders meeting. However, there is no discussion in the proxy statement of related party transactions or description of your policies and procedures for reviewing, approving or ratifying such transactions. Please advise.

Item 14. Exhibits and Financial Statement Schedules, page 55

20. In future filings, please incorporate by reference in your exhibit index your employment agreement with Mr. Moran filed on Form 8-K on May 7, 2008 and your employment agreements with Messrs. Jen, Hough and Grady that were filed on Form 8-K on January 7, 2009.

Form 10-Q for the Quarterly Period Ended March 31, 2009

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

Liquidity and Capital Resources, page 20

21. We note your disclosures on page 21 where you indicate that the Company believes you will generate sufficient cash through normal operations and through the utilization of your current credit facility to meet your liquidity and working capital needs in 2009. Please confirm, if true, and revise in the future to indicate whether the Company's cash resources will be sufficient to meet your operating needs for the next 12 months. We refer you to FRC 501.03(a).

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Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please submit all correspondence and supplemental materials on EDGAR as required by Rule 101 of Regulation S-T. If you amend your filing(s), you may wish to provide us with marked copies of any amendment to expedite our review. Please furnish a cover letter 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 any amendment and your 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 Exchange Act of 1934 and that 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.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- 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

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- 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.

You may contact Kari Jin, Staff Accountant, at (202) 551-3481, if you have any questions regarding comments on the financial statements and related matters. Please address questions regarding all other comments to Matt Crispino, Staff Attorney, at (202) 551-3456. If you need further assistance, you may contact me at (202) 551-3499.

Sincerely,

Kathleen Collins
Accounting Branch Chief