

**Mail Stop 4561**  
**Via fax (410) 970-7997**

July 23, 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 your response to your letter dated June 29, 2009 in connection with the above referenced filing 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 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. Unless otherwise noted, where prior comments are referred to they refer to our letter dated June 8, 2009.

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

General

1. We note from your response to prior comment 1 that you also provide services in the Middle East to Saudi Basic Industries Corporation. We note an April 2008 news article stating that Saudi Basic Industries Corp. Europe is party to a joint venture called Laleh Petrochemical that is also owned by Iran's National Petrochemical Co. and Iran's Poushineh Industrial Group. Please tell us whether Saudi Basic Industries utilizes your services or solutions in its Iranian operations.

John V. Moran  
GSE Systems, Inc.  
July 23, 2009  
Page 2

Please also discuss the materiality of Saudi Basic Industries' Iranian operations in light of the State Department's designation of Iran as a state sponsor 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 Saudi Basic Industries, given the investor sentiment evidenced by shareholder actions directed toward companies that have operations associated with Iran.

\* \* \* \* \*

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 response 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 response to our comments.

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