

**Air Products and Chemicals, Inc.**  
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**Paul E. Huck**  
Sr. Vice President and  
Chief Financial Officer

28 March 2011

Ms. Cecilia Blye  
Chief, Office of Global Security Risk  
Securities and Exchange Commission  
Division of Corporate Finance  
100 F Street, N.E.  
Washington, DC 20549

Re: Air Products and Chemicals, Inc.  
Form 10-K for the Fiscal Year Ended September 30, 2010  
File No. 1-04534

Dear Ms. Blye:

In response to your letter of 15 March 2011, we provide the information below. Our responses have been numbered to correspond with the comments in your letter. The original comments contained in your letter have been included in bold face type for reference during your review. Capitalized terms have the meanings ascribed to them in the Company's Form 10-K.

**Comment 1**

**We note on page 6 in your Form 10-K that you own interests in entities operating in Africa, the Middle East, and Latin America, regions generally understood to include Sudan, Iran, Syria, and Cuba. Cuba, Iran, Sudan, and Syria 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 the referenced countries. Please describe to us the nature and extent of your past, current, and anticipated contacts with Cuba, Iran, Sudan, and Syria, if any, whether through subsidiaries, affiliates, joint ventures, or other direct or indirect arrangements. Your response should describe any materials, including chemicals, products, technology, equipment, components, information, and services that you have provided, or intend to provide, into Cuba, Iran, Sudan, and Syria, directly or indirectly, and any agreements, commercial arrangements, or other contacts you have had with the governments of the referenced countries or entities controlled by those governments.**

**Response:**

The Company and its subsidiaries and affiliates do not have and do not intend to have any contacts with Cuba, Iran, or Sudan; and the Company and its subsidiaries do not, directly or indirectly, provide or intend to provide any products or services into Cuba, Iran, or Sudan. The Company has implemented globally an enterprise resource planning (ERP) system which screens all countries and business partners and denies requested vendors or purchasers with addresses within these countries or who are identified by the Office of Foreign Asset Control (OFAC) as Specially Designated Nationals (SDNs) of these countries, wherever located. The Company's ERP system has associated export compliance software which blocks all sales to destinations within these countries or to persons identified by the OFAC as SDNs of these countries. The few Company or affiliate locations that do not use this software are regularly trained and monitored with respect to export compliance.

Until the Company implemented its ERP system in 2002, non-U.S. person affiliates of the Company did make minimal sales to Iran of non-U.S. origin commodities classified as EAR99 under the U.S. Export Administration Regulations (EAR). To the best of my knowledge, understanding, and belief, no sales to Iran have taken place since then.

The Company's export compliance software also blocks any sales to destinations within Syria or to SDNs of Syria, wherever located. However, these blocked sales are reviewed, and sales into Syria of non-U.S. origin commodities for legitimate commercial end uses and end users by non-U.S. person affiliates of the Company may be authorized. These commodities would also be classified as EAR99 under the EAR. Non-U.S. origin sales for calendar year 2010 were less than \$1 million USD.

To the best of my knowledge, understanding, and belief, the Company and its subsidiaries and affiliates do not have any commercial arrangements, agreements or other contacts, directly or indirectly, with the governments of Cuba, Iran, Sudan, or Syria, or entities controlled by these governments.

**Comment 2**

**Please tell us whether, to the best of your knowledge, understanding, and belief, any of the materials, including chemicals, products, technology, equipment, or components you may have provided or may intend to provide, directly or indirectly, into Cuba, Iran, Sudan, and Syria, are controlled items included in the Department of Commerce's Commerce Control List. If so, tell us whether any such items have weapons or other military uses, and describe such possible uses of which you are aware. Also, advise us whether, to the best of your knowledge, understanding, and belief, any such items have been put to weapons or other military uses by Cuba, Iran, Sudan, or Syria, and discuss any such uses of which you are aware.**

**Response:**

To the best of my knowledge, understanding, and belief, the Company has not provided and does not intend to provide materials, including chemicals, products, technology, or equipment, directly or indirectly, into Cuba, Iran, Sudan, and Syria, that are controlled items included in the Department of Commerce's Commerce Control List.

**Comment 3**

**Please discuss the materiality of any contacts with Cuba, Iran, Sudan, and Syria, and whether those contacts constitute a material investment risk for your security holders. You should address materiality in quantitative terms, including the approximate dollar amounts of any revenues, assets, and liabilities associated with each of the referenced countries for the last three fiscal years and the subsequent interim period. Also, address materiality in terms of qualitative factors that a reasonable investor would deem important in making an investment decision, including the potential impact of corporate activities upon a company's reputation and share value. 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. In this regard, we are aware of a June 2010 news report that your joint venture company based in China had agreed to construct a hydrogen production facility for PetroChina Company Limited, a company that has been the object of divestment and related efforts resulting from its parent company's operations in Sudan and Iran. Please discuss the potential impact on your reputation and share value of your joint venture's relationship with PetroChina.**

**Response:**

The Company has no contacts with Cuba, Iran, or Sudan. The Company's U.S. operations have no contacts with Syria. Any contacts with Syria originating outside the U.S. are quantitatively and qualitatively immaterial.

The Company's joint venture company based in Sichuan, China, will provide hydrogen to PetroChina Company Ltd., a publicly-listed subsidiary of China National Petroleum Corporation (CNPC). The Company does not believe the operations of CNPC will have a material impact on the Company's reputation or share value. The Company's agreement to provide hydrogen to PetroChina is expected to increase the value of shares of the Company.

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In connection with this response, management acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in their filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Securities and Exchange Commission from taking any action with respect to the filing; and
- the Company may not assert staff comments as a defense in any proceedings initiated by the Securities and Exchange Commission or any person under the federal securities laws of the United States.

Should the staff require any additional information, please contact me at 610-481-7932.

Yours truly,

/s/ Paul E. Huck  
Paul E. Huck  
Sr. Vice President and  
Chief Financial Officer

c: Pradip Bhaumik  
Special Counsel, Office of Global Security Risk  
Securities and Exchange Commission