



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

Mail Stop 4631

February 26, 2016

Via E-mail

Mr. Scott Crocco
Senior Vice President and Chief Financial Officer
Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195

**RE: Air Products and Chemicals, Inc.
Form 10-K for the Year Ended September 30, 2015
Filed November 24, 2015
Item 2.02 Form 8-K
Filed January 29, 2016
File No. 1-4534**

Dear Mr. Crocco:

We have limited our review of your filing to the financial statements and related disclosures and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for the Year Ended September 30, 2015

Item 8. Financial Statements and Supplementary Data, page 55

16. Retirement Benefits, page 84

1. In future filings, please expand your disclosures related to accounting policy elections to quantify the service period of your employees over which you amortize actuarial gains and losses and clarify if you employ a corridor.

Form 8-K Filed on January 29, 2016

2. In your earnings release, we note you provide disclosures that you identify as "EPS", "Net Income", "Operating Income", and "EPS Guidance" that actually relate to non-

Mr. Scott Crocco
Air Products and Chemicals, Inc.
February 26, 2016
Page 2

GAAP financial measures. Please revise future disclosures related to non-GAAP financial measures to not use GAAP terminology when you refer to non-GAAP financial measures.

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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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 responding to our comments, please provide a written 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
- 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.

You may contact Jeffrey Gordon, Staff Accountant, at (202) 551-3866 or Anne McConnell, Staff Accountant, at (202) 551-3709 with any questions.

Sincerely,

/s/ John Cash

John Cash
Accounting Branch Chief
Office of Manufacturing and
Construction