



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

DIVISION OF  
CORPORATION FINANCE

Mail Stop 3561

March 22, 2016

Dennis P. Kelleher  
Senior Vice President and Chief Financial Officer  
CF Industries Holdings Inc.  
4 Parkway North, Suite 400  
Deerfield, IL 60015-2590

**Re: CF Industries Holdings Inc.  
Form 10-K for the Year Ended December 31, 2015  
Filed February 25, 2016  
File No. 001-32597**

Dear Mr. Kelleher:

We have reviewed your filing 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.

Notes to Consolidated Financial Statements

9. Fair Value Measurements, page 97

1. We note that you have included disclosures about the fair value measurements of assets and liabilities measured on a recurring basis. Please revise to also include the disclosures of fair value measurements for assets and liabilities measured at fair value on a non-recurring basis, such as the fair value measurement of your equity method investment in PLNL that resulted in an impairment charge in 2015. See guidance in ASC 820-10-50-2.

20. Contingencies, page 130

2. We note the West Fertilizer Co. litigation that you believe you have strong legal and factual defenses and intend to continue defending the CF Entities vigorously in the pending lawsuits. Please note that in accordance with ASC 450-20-50-3, if there is at least a reasonable possibility that a loss or an additional loss may have been incurred, the disclosure shall indicate the nature of the contingency in addition to an estimate of the possible loss or range of loss or state that such an estimate cannot be made even if no accrual is made. Please confirm your compliance with the requirements of ASC 450-20-50-4 and that you will revise your disclosures in future filings, as applicable.

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 Melissa Gilmore at (202) 551-3777 or Claire Erlanger at (202) 551-3301 if you have any questions.

Sincerely,

/s/ Melissa Raminpour

Melissa Raminpour  
Branch Chief  
Office of Transportation and Leisure