



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

DIVISION OF  
CORPORATION FINANCE

Mailstop 3233

March 7, 2017

Via E-Mail

Alan J. Dean  
Executive Vice President and Chief Financial Officer  
CBOE Holdings, Inc.  
400 South LaSalle Street  
Chicago, IL 60605

**Re: CBOE Holdings, Inc.  
Form 10-K for the fiscal year ended December 31, 2016  
Filed February 21, 2017  
File No. 001-34774**

**Form 8-K  
Filed January 3, 2017  
File No. 001-34774**

Dear Mr. Dean:

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

Please respond to this comment 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 comment applies to your facts and circumstances, please tell us why in your response.

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

Form 8-K filed January 3, 2017

Exhibit 99.3

Note 4.G., page 11

1. Please tell us how you determined the reasonableness of the 25 year estimated useful life related to customer relationships and the indefinite useful life related to trading registration and licenses acquired from Bats Global Markets, Inc. Refer to ASC 350-30-35-3.

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We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Mark Rakip, Staff Accountant at 202.551.3573 or me at 202.551.3429 if you have questions regarding the comment on the financial statements and related matters.

Sincerely,

/s/ Kristi Marrone

Kristi Marrone  
Staff Accountant  
Office of Real Estate and  
Commodities