



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 4631

May 25, 2010

*Via U.S. Mail*

Joanne Moffic-Silver  
Executive Vice President and General Counsel  
CBOE Holdings, Inc.  
400 South LaSalle Street  
Chicago, IL 60605

**Re: CBOE Holdings, Inc.  
Amendment No. 2 to Registration Statement on Form S-1  
Filed May 18, 2010  
File No. 333-165393**

Dear Ms. Moffic-Silver:

We have reviewed your filings and have the following comments.

Prospectus Cover Page

1. Please revise the cover page to name only the lead or managing underwriter(s). The information on your cover page should be limited to the information required by Item 501 of Regulation S-K.

Risk Factors, page 10

Risks Related to Our Business, page 10

Regulatory Changes affecting the listed options market . . . , page 10

2. We note your new disclosure concerning the SEC proposal to cap access fees. Please revise your disclosure to clarify, if true, that the proposed cap would impact the "transaction fees" component of your annual operating revenues. Please make conforming revisions as necessary throughout the prospectus.

Certain underwriters for this offering or their affiliates are also selling stockholders . . . , page 26

3. We note your new risk factor disclosure. Please revise the disclosure to more clearly explain the risk to investors.

Principal and Selling Stockholders, page 155

4. We note your new disclosure here and elsewhere in the prospectus that the selling security holders that are broker-dealers and affiliates of broker-dealers may be deemed to be underwriters within the meaning of the Securities Act. We further note that some of the selling security holders are actually serving as underwriters for the offering. As to those selling security holders, their status as underwriters appears to be free from uncertainty and thus it seems inappropriate to state that they may be deemed to be underwriters. Please revise your disclosures accordingly.
5. Please identify by name the natural persons who exercise voting or investment control or both with respect to the shares held by the following selling security holders:
  - Barclays Capital, Inc.;
  - Charles Schwab & Co., Inc.;
  - Group One Trading, LP;
  - Raymond James & Associates, Inc.; and
  - RBS Securities, Inc.

Please refer to Question 140.02 of the Division's Compliance & Disclosure Interpretations for Regulation S-K, which can be found on our website.

Underwriting, page 176

6. The form of underwriting agreement filed with this amendment indicates that the underwriters are purchasing securities from both you and the selling security holders. Please revise your disclosure to clarify this purchasing arrangement.
7. Please tell us what consideration you have given to the application of FINRA Rule 2720 (Public Offerings of Securities with Conflicts of Interest) to the underwriting arrangements.

Exhibit 5.1

8. Please have counsel revise its opinion to remove the three "duly issued" assumptions set forth in numbered paragraphs (i) and (ii). Item 601(b)(5) of Regulation S-K requires that counsel provide an opinion that the subject securities will be legally (or validly) issued. The aforementioned assumptions are inappropriate because they undermine counsel's "validly issued" opinions. For numbered paragraph (ii), in lieu of the "duly issued" assumption it would be acceptable to make the opinion subject to the consummation of the restructuring transaction, as described in the prospectus.

Joanne Moffic-Silver  
CBOE Holdings, Inc.  
May 25, 2010  
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As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendments to expedite our review. Please furnish a cover letter with your amendments that keys your responses 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 your amendment and responses to our comments.

You may contact Bret Johnson, staff accountant, at (202) 551-3753 or Anne McConnell, staff accountant, at (202) 551-3709 if you have questions regarding comments on the financial statements and related matters. Please contact Dieter King, staff attorney, at (202) 551-3338 or me at (202) 551-3760 with any other questions.

Sincerely,

Pamela Long  
Assistant Director

cc: Richard T. Miller, Esq. (Via Facsimile 312-258-5600)  
David McCarthy, Esq. (Via Facsimile 312-258-5600)