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February 20, 2007

VIA EDGAR AND FACSIMILE

Jennifer R. Hardy
Branch Chief
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-0303

Re: Chicago Mercantile Exchange Holdings Inc.
Amendment No. 1 to Registration Statement on Form S-4
Filed January 30, 2007
Commission File No. 333-139538

Dear Ms. Hardy:

We are writing on behalf of our client, Chicago Mercantile Exchange Holdings Inc. (the "Company"), in response to the letter of the staff (the "Staff") of the Division of Corporation Finance of the Securities and Exchange Commission (the "Commission"), dated February 15, 2007 (the "Comment Letter"), relating to the Company's Amendment No. 1 to Registration Statement on Form S-4 filed with the Commission on January 30, 2007 in connection with the merger of the Company and CBOT Holdings, Inc. ("CBOT Holdings").

For the convenience of the Staff, the responses are set forth below following the text of the paragraph of the Comment Letter to which each response relates. Enclosed is a copy of Amendment No. 2 to the Registration Statement ("Amendment No. 2"), which is being filed via EDGAR concurrently herewith and which has been marked to show changes from Amendment No. 1 to the Registration Statement as previously filed. The page references in the responses to the Staff's comments refer to Amendment No. 2.

General

- 1. We note the recommendation of CBOT's board of directors with respect to the proposal to vote upon an adjournment or postponement to solicit additional proxies. Please confirm that neither the board of directors of CME nor CBOT Holdings has issued a recommendation with respect to the proposals to vote upon an adjournment or postponement of the meetings of the CME stockholders or CBOT Holdings Class A Stockholders or, otherwise, revise the letters to the companies' respective stockholders to disclose the respective recommendations.**

Response: Neither the board of directors of the Company nor CBOT Holdings has issued a recommendation with respect to the proposal to vote on an adjournment or postponement. CBOT's letter to members in the Registration Statement has been revised in response to this comment.

Summary, page 1

Questions and Answers About the Merger, page 1

What will CBOT Holdings Class A stockholders receive in the merger?, page 1

2. We note your responses to comments 5 and 6 of our letter dated January 23, 2007, as well as the calculation of the total preliminary purchase price on page 140. To provide investors with a more thorough understanding of the value of the merger consideration, please revise your disclosure here and on page 140 to disclose such consideration as of the most recent practicable date since there have been significant fluctuations in CME's stock price.

Response: The Registration Statement has been revised on page 2 and in the pro forma financial information section in response to this comment.

Other Information Regarding the Merger, page 9

CBOT Holdings Financial Advisor..., page 10

3. We note your response to comment 8 of our letter dated January 23, 2007. Please revise to disclose the percentage of the total consideration that will be paid by CBOT Holdings to JPMorgan if the merger is consummated.

Response: The Registration Statement has been revised on page 11 in response to this comment to disclose the percentage of the total consideration that will be paid by CBOT Holdings to JPMorgan if the merger is consummated.

Opinion of Lehman Brothers, Financial Advisor to CME Holdings, page 69

Comparable Company Analysis, page 71

4. We note your response to comment 19 of our letter dated January 23, 2007. It is unclear to us whether the qualitative judgments made by Lehman Brothers were to disregard the quantitative results for the companies listed on page 71, other than those identified as most closely matching the financial and operating characteristics of CBOT Holdings or, alternatively, whether such judgments resulted in adjustments to a larger quantitative analysis. If the reference range for the implied share price of CBOT Holdings was calculated solely by reference to the three companies identified in your response, so state.

Response: The Registration Statement has been revised on page 73 in response to this comment.

CBOT Discounted Cash Flow Analysis, page 73

5. We note your response to comment 20 of our letter dated January 23, 2007. Please expand your discussion to disclose the companies selected by Lehman Brothers for its determination of the future market volatility component of its weighted average cost of capital calculation. In addition, please revise the statement that "discount rates utilized in this analysis were chosen by Lehman Brothers based on its expertise and experience ... and also on an analysis of the weighted average cost of capital of CBOT Holdings" to clarify whether the Lehman Brothers utilized its "expertise and experience" in calculating the weighted average cost of capital, which was used as the discount rate, or whether such "expertise and experience" was used in adjusting the calculation of the weighted average cost of capital to reach the range of discount rates used in the analysis.

Response: The Registration Statement has been revised on pages 74 and 75 in response to this comment.

Opinion of JP Morgan, Financial Advisor to CBOT Holdings, page 83

6. We note your response to comment 23 of our January 23 letter. Please revise to make the disclosures requested in that comment in your discussion of the opinions of JPMorgan and Lazard.

Response: The Registration Statement has been revised on pages 85 and 91 in response to this comment.

Publicly Traded Comparable Company Analysis, page 86

7. We note your revision on page 86 in response to comment 18 of our January 23 letter. Please revise to disclose the criteria that JPMorgan used in determining which companies were "relevant."

Response: The Registration Statement has been revised on page 87 in response to this comment.

Discounted Cash Flow Analysis, page 87

8. We note your revised disclosure regarding the range of discount rates selected. Please expand your disclosure to discuss the analyses of selected publicly traded companies engaged in relevant businesses that were performed, as well as the companies deemed relevant, in calculating the applicable discount rate.

Response: The Registration Statement has been revised on page 88 in response to this comment.

The Merger Agreement, page 109

Representations and Warranties, page 117

9. We note your response to comment 28 of our letter dated January 23, 2007. Please provide us with a list briefly identifying the contents of all omitted schedules.

Response: The Company is providing, supplementally under separate cover, a list briefly identifying the contents of the parties' confidential disclosure schedules.

Conditions to Complete the Merger, page 120

10. We note your response to comment 29 of our January 23 letter. Please revise your discussion to briefly describe the facts under which the parties may waive an existing condition to the merger.

Response: The Registration Statement has been revised on page 122 in response to this comment.

Exhibits

Exhibit 5.1, Form of Opinion of Kathleen M. Cronin... regarding legality of the securities being issued

11. Please confirm that the reference in the fifth paragraph of the opinion to the corporate laws of the State of Delaware includes all statutes, including the rules and regulations underlying those provisions, applicable judicial and regulatory determinations, and applicable provisions of the Delaware Constitution.

Response: The Company confirms that the reference in the fifth paragraph of the opinion to the corporate laws of the State of Delaware includes all statutes, including the rules and regulations underlying those provisions, applicable judicial and regulatory determinations, and applicable provisions of the Delaware Constitution.

Exhibit 8.1, Form of Opinion of Skadden Arps... relating to tax matters

- 12. We note the opinion is that the merger will qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code. Please submit a revised opinion clarifying that the consequence of such a qualification is that the merger is tax free. Submit a similarly revised opinion with respect to the tax consequences of the merger to CBOT Holdings, Inc.**

Response: The opinions of Skadden, Arps and Mayer Brown have been revised in response to this comment.

- 13. The assumptions that the merger will qualify as a statutory merger under Delaware law and that the merger agreement will be enforceable should be deleted, as the tax opinion cannot assume any legal conclusion underlying the opinion.**

Response: The opinion of Skadden, Arps has been revised in response to this comment.

- 14. The statement of reliance upon the statements and representations of the officers and other representatives of the parties should be revised to indicate that such reliance is limited to factual matters or, alternatively, the statement should be deleted.**

Response: The opinion of Skadden, Arps has been revised in response to this comment.

- 15. The revised tax opinion should delete the statement that the opinion “is expressed as of the date hereof,” as such opinion must speak as of the date of effectiveness of the registration statement.**

Response: The opinion of Skadden, Arps has been revised in response to this comment.

- 16. We note the statement in the second to last paragraph that the “letter has been prepared for you solely in connection with the Merger.” It is unclear to us whom counsel is referring to in its use of “you.” Note that use of the tax opinion may not be limited to the board of directors or to the registrant.**

Response: The opinion of Skadden, Arps has been revised in response to this comment.

- 17. Please also include the signature of counsel in your revised tax opinion.**

Response: An executed copy of all three legal opinions will be filed with the final amendment to the Registration Statement.

Exhibit 8.2, Form of Opinion of Mayer, Brown, Rowe & Maw LIT relating to tax matters

- 18. Please submit a revised opinion of counsel that does not contain an assumption regarding the enforceability of the merger agreement.**

Response: The opinion of Mayer Brown has been revised in response to this comment.

Closing Comment

19. Please also review the representations requested on page 7 of our letter dated January 23, 2007, and provide these representations in the form requested.

Response: The Company confirms to the Staff that its request for acceleration will include the representations requested on page 7 of the Staff's letter dated January 23, 2007.

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After you have had the opportunity to review the attached, please do not hesitate to contact the undersigned (312-407-0531) or Susan S. Hassan (312-407-0527) with any questions or further comments you may have. Facsimile transmissions may be sent to us at (312) 407-0411.

Very truly yours,

/s/ Rodd M. Schreiber
Rodd M. Schreiber
Skadden, Arps, Slate, Meagher & Flom LLP

cc: Matt Franker (Securities and Exchange Commission) Bret Johnson (Securities and Exchange Commission) Jennifer Thompson (Securities and Exchange Commission) Kathleen M. Cronin (Chicago Mercantile Exchange Holdings Inc.) Susan S. Hassan (Skadden, Arps, Slate, Meagher & Flom LLP) Kevin J.P. O'Hara (CBOT Holdings, Inc.) Scott J. Davis (Mayer Brown Rowe and Maw LLP) Bruce F. Perce (Mayer Brown Rowe and Maw LLP)