

MEMORANDUM

To: Richard H. Walker  
Stephen M. Cutler  
Division of Enforcement

From: Lori A. Richards *LAR*  
John A. McCarthy *JAM*  
Office of Compliance Inspections and Examinations

Re: Violations of the Limit Order Display Rule by Examination Material Bernard  
L. Madoff Investment Securities, and Examination Material

Date: August 3, 2000

As we discussed, Staff from the Office of Compliance Inspections and Examinations (“Staff”) recently reviewed limit order data provided by Examination Material Bernard L. Madoff Investment Securities, and Examination Material for compliance with Rule 11Ac1-4 under the Securities Exchange Act of 1934 (“Display Rule”). These examinations revealed serious deficiencies by all three market makers.

Briefly, the Staff believes the following firms warrant enforcement action for the following reasons:

Examination Material

- Examination Material, Deliberative Process
- Examination Material
- Examination Material

**Bernard L. Madoff Investment Securities (“MADF”)**

- The Staff’s review of a sample of eligible customer limit orders revealed that approximately 18% of the orders were not displayed in compliance with the Display Rule.
- MADF designed its internal order handling system with certain parameters that result in noncompliance with the Display Rule.
- In June 1999, MADF represented to NASD Regulation, Inc., in response to violations of the Display Rule, that it made the appropriate curative systems modifications. However,

the Staff found similar violations in October 1999, indicating that the systems modifications were not effective.

Examination Material

• Deliberative Process, Examination Material

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The Staff's findings are discussed more fully in the attached examination reports. We refer these reports to the Division of Enforcement for further action. OCIE staff who conducted these examinations are: Helen Moore Personal Privacy and Tina Barry Personal Privacy

Attachments

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
OFFICE OF COMPLIANCE INSPECTIONS AND EXAMINATIONS  
EXAMINATION REPORT OF  
BERNARD L. MADOFF INVESTMENT SECURITIES'  
COMPLIANCE WITH SEC RULE 11AC1-4**

August 3, 2000

**I. INTRODUCTION**

**A. Purpose and Scope of the Examination**

The Office of Compliance Inspections and Examinations ("Staff") conducted a special purpose examination on November 8-10, 1999 of Bernard L. Madoff Investment Securities' ("MADF" or "firm") compliance with Rule 11Ac1-4 (the "Display Rule") under the Securities Exchange Act of 1934 ("Exchange Act"). The Staff initiated the examination to assess the firm's compliance with the Display Rule. MADF, one of the largest third market makers,<sup>1</sup> makes markets in over 400 listed securities. MADF is also a relatively large market maker in Nasdaq securities, making markets in over 200 Nasdaq securities.

As part of the examination, the Staff reviewed over six hundred eligible<sup>2</sup> customer limit orders received by MADF in October 1999 for compliance with the Display Rule. In addition, the Staff interviewed MADF personnel regarding MADF's internal order routing, display, and execution system. This report sets forth the Staff's findings from the examination. Based on those findings, the Staff recommends that this matter be referred to the Division of Enforcement for further proceedings.

**B. Background on the Display Rule**

The Display Rule requires OTC market makers and specialists to display the price and full size of customer limit orders in their quotation when these orders are priced better than the specialist's or OTC market maker's quotation. In addition, OTC market makers and specialists must increase the size of their quotation for a particular security to reflect a limit order of greater than *de minimus* size when the limit order is priced equal to the specialist's or OTC market maker's disseminated quotation and that quotation is equal to the national best bid or offer ("NBBO"). The Display Rule does not require a

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<sup>1</sup> A third market maker is an NASD member firm that executes orders in exchange-listed securities in the over-the-counter market.

<sup>2</sup> An eligible customer limit order is a customer limit order that is received by an exchange specialist or OTC market maker that either: (1) is superior in price to the specialist's or market maker's existing quote; or (2) adds to the size of the specialist's or market maker's quote, is at the national best bid or offer, and is of greater than a *de minimus* size in relation to the specialist's or market maker's quote. See Securities Exchange Act Release No. 37619A (Sept. 6, 1996), 61 FR 48290 at 48302 (Sept. 12, 1996).

firm to display the following seven types of orders: (1) customer limit orders executed immediately upon receipt; (2) limit orders placed by a customer who expressly requests that the orders not be displayed; (3) odd-lot orders; (4) block-sized orders; (5) orders which are delivered immediately to an exchange or association-sponsored system that displays limit orders in compliance with the Display Rule; (6) orders which are delivered immediately to another exchange member or market maker that handles the order in accordance with the Display Rule; and (7) "all-or-none" orders.<sup>3</sup>

## II. SUMMARY OF FINDINGS AND RECOMMENDATION

The Staff found that MADF failed to comply fully with the Display Rule. Specifically, the Staff found that MADF designed its internal order routing, display, and execution system with certain parameters that result in noncompliance with the Display Rule. MADF had notice that some parameters would prevent certain customer limit orders from being displayed in compliance with the rule. MADF nevertheless failed to take further action to improve the compliance of its system. Accordingly, the Staff recommends that this matter be referred to the Division of Enforcement.

## III. INADEQUATE COMPLIANCE WITH SEC RULE 11Ac1-4

The Staff reviewed 643 eligible customer limit orders received by MADF on October 10, 11, and 25, 1999 to determine whether MADF handled them in compliance with the Display Rule. The Staff reviewed customer limit orders in both listed and over-the-counter securities. The Staff found that approximately 18% of the orders reviewed were improperly displayed for 30 seconds or longer.<sup>4</sup> The Staff found many instances in which MADF failed to properly display a customer limit order multiple times during the life of the order.<sup>5</sup>

When MADF failed to display an eligible customer limit order, that failure usually resulted from the manner in which its automated order handling and execution system, MISS,<sup>6</sup> handled orders in five specific circumstances. Each circumstance results from programming decisions MADF made in designing MISS. Because MADF's systems always treated these circumstances in the same manner, the display violations

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<sup>3</sup> See Securities Exchange Act Release No. 37619A (September 6, 1996), 61 FR 48290 (September 12, 1996).

<sup>4</sup> The Staff provided MADF with an opportunity to verify the Staff's findings of Display Rule violations. MADF responded only to the Staff's findings involving Display Rule violations in over-the-counter securities.

<sup>5</sup> The life of a customer limit order begins when a specialist or market maker receives the order and ends when the order is executed, routed to another market center, cancelled, or otherwise expires.

<sup>6</sup> MISS is an acronym for Madoff Integrated Support System.

cited below would have occurred systematically in the trading of all issues in which MADF made a market.

#### **A. The Effect of Odd Lot Orders<sup>7</sup> on Eligible Customer Limit Orders**

The Staff found that MADF failed to display eligible customer limit orders when an odd lot order became the best priced order on its book. Before the examination began, MADF did not display odd lot orders. Indeed, the Display Rule does not require the display of those orders. However, the MADF system did not then display the next eligible customer limit order held on its book. MADF later determined that MISS could not identify the next best priced customer limit order on MADF's book. MADF initially programmed its system to display a size of 100 shares at the next best minimum increment price level away from the odd lot order. If the book contained a customer limit order at that price level, MADF only displayed that order as one for 100 shares without regard to its actual size. As a result, MADF often failed to display the proper size of customer limit orders held on its book. During the examination, MADF informed the staff that it was correcting this system problem by rounding up odd lot orders and displaying the rounded quantity.

#### **B. The Effect of Stop Limit Orders<sup>8</sup> on Eligible Customer Limit Orders**

The Staff found that MADF also failed to display eligible customer limit orders when a stop limit order became the best priced order on its book. MADF does not display customer stop limit orders and the Display Rule does not require it to do so. Again, however, MISS could not identify the next best priced customer limit order on MADF's book that the Display Rule required it to display. As it had with odd lots, MADF programmed its system to display a price at the next best minimum increment price level at a size of only 100 shares. If MADF's book contained a customer limit order at that price, MADF only displayed that order as one for 100 shares without regard to the actual size of the order. MADF continues to deal with the effect of stop limit orders in this way. As a result, the Staff believes that MADF may often fail to display the proper size of customer limit orders held on its book.

#### **C. The Handling of Orders Priced Less Than the Minimum Quotation Increment**

The Staff found that MADF failed to display the proper size of customer limit orders on its book when an order priced less than the minimum quotation increment was the best priced order on its book. When MADF receives an order priced at less than the minimum quotation increment, MADF rounds the order to the next displayable quotation increment and displays it.<sup>9</sup> MADF, however, does not aggregate all customer orders on

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<sup>7</sup> An odd lot order is an order for less than 100 shares.

<sup>8</sup> A stop limit order is an order that becomes executable at the limit price, or at a better price, when a transaction in the security occurs at or better than the limit price.

its book at the rounded price in its display. Because MADF's quotation does not include an identifier to indicate that the quote is rounded, the Staff believes that MADF is misleading market participants by failing to show the aggregate size of all orders on its book at the rounded price. MADF has not altered its procedures for handling orders priced at less than the minimum increment.

#### **D. The Handling of Orders Received Prior to the Open**

The Staff found that MADF does not properly display several eligible customer limit orders received prior to the opening. MADF does not automatically display eligible customer limit orders received prior to the opening during the first fifteen minutes of trading unless a security-specific event occurs, such as the systematic adjustment of MADF's quotation due to the receipt of a new customer limit order after the opening, an attempt by a trader to adjust his quotation, or an NBBO quotation change that causes the system to execute the customer limit order MADF is holding. If none of these events occur by 9:45, MISS performs a sweep to ensure that all eligible customer limit orders received before the open are being properly displayed.<sup>10</sup>

During the examination, MADF told the Staff that it would perform the sweep at 9:37:00. The Staff believes MADF should place pre-open unmarketable limit orders on its book and display them when appropriate. Continued use of this sweep method will always provide opportunities for a customer limit order to not be displayed in accordance with the Display Rule.

#### **E. Momentary Quote-Throughs**

The Staff found numerous instances in the sample of orders reviewed in which MADF moved its quotation away from the best priced order on its book for a few seconds and then returned to the appropriate quotation. MADF explained that these instances were due to an automatic quotation decrement feature in Nasdaq's Small Order Execution Service ("SOES")<sup>11</sup>. When MADF's size has been exhausted by executions through SOES, this feature automatically updates MADF's quotation by decreasing its bid or increasing its offer by a specified increment. MADF has also replicated this

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<sup>9</sup> NYSE Rule 62 provides that the NYSE may establish the minimum trading variation for its listed securities from time to time. On June 24, 1997, the NYSE established the minimum trading variation for NYSE listed securities priced greater than or equal to .50 as 1/16 and for securities priced less than .50 as 1/32. See NYSE Information Memorandum No. 97-35 (June 23, 1997). On May 27, 1997 the SEC approved a proposal by the NASDAQ Stock Market to reduce the minimum quotation increment from 1/8 of a dollar to 1/16 of a dollar for NASDAQ securities with bid prices of \$10 or more. For securities priced less than \$10, the minimum quotation increment is 1/32 of a dollar. See Securities Exchange Act Release No. 38678 (May 27, 1997), 62 FR 30363 (June 3, 1997) (SR-NASD-97-27).

<sup>10</sup> See Letter from Peter Madoff, Bernard L. Madoff Investment Securities, to Tina C. Barry, Staff Attorney, Securities and Exchange Commission, dated January 21, 2000.

<sup>11</sup> SOES is a service provided by Nasdaq which automatically executes small agency orders at the best displayed price in the marketplace.

feature in MISS to respond to SelectNet<sup>12</sup> orders and the execution of customer limit orders. When MADF receives and executes a SelectNet liability order,<sup>13</sup> the MISS system automatically updates MADF's quotation in the same manner. Likewise, when a customer limit order is executed, the MISS system automatically updates MADF's quotation.

According to MADF, MISS automatically updates its quotation to the appropriate price and size after these quotation decrements occur. This correction usually occurs within 3-7 seconds. The Staff found instances in its sample where the time from quotation decrement to the time of quotation update was up to 50 seconds. The Staff believes that this failure to immediately display eligible customer limit orders violates the Display Rule. MADF should take the steps necessary to bring its system into compliance with the Display Rule, even if it means disabling the automatic quotation decrement feature.

#### **F. Evidence of Prior Knowledge of Inadequate MISS Programming**

The Staff found that MADF had prior notice of some programming deficiencies in its system causing noncompliance with the Display Rule. In September 1998, the NASD examined MADF's trading and market making functions. The NASD found that some customer limit orders were not properly displayed and requested MADF to provide, in writing, a description of the steps taken to ensure compliance with the Display Rule in the future. MADF's response stated that supervisory personnel had reviewed the code in MISS and implemented an enhancement to ensure compliance with the Display Rule. MADF stated, as related to the automatic quotation decrement feature, "MISS has been reprogrammed to refresh [MADF's] quote at the next permissible increment, subject to the applicable price and size of our next displayable order. This system enhancement prevents MADF from moving 'too far' and quoting through a displayable order, even for a short period of time (less than 30 seconds)."

The Staff believes that MADF did not adequately reprogram its system. MADF's explanation to the Staff for its failure to properly display several customer limit orders was that MISS's automatic quotation decrement feature moved MADF's quotation "too far," causing a momentary quote-through. MADF knew that its programming specifications were causing momentary quote-throughs in September 1998 and represented to the NASD in June 1999 that the problem had been solved. The Staff's findings from October 1999 indicate that MISS has not been repaired and continues to cause momentary quote-throughs.

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<sup>12</sup> SelectNet is an electronic, screen-based order routing system provided by Nasdaq that allows market makers and order entry firms to negotiate transactions through computer communications.

<sup>13</sup> A SelectNet liability order is an order received by a market maker, through SelectNet, offering to trade at the market maker's posted quotation. It is referred to as a "liability" order because the market maker is required to honor its quotation by executing the order presented to it at a price at least as favorable as its published quotation up to its published quotation size. See Rule 11Ac1-1(c), or the "Firm Quote Rule" under the Exchange Act.

#### **IV. CONCLUSION**

The Staff's findings from this examination reveal that MADF's system is significantly deficient in its compliance with the Display Rule. This harms public investors by decreasing transparency, liquidity, and the likelihood that a particular investor's order will be executed in a timely manner. The Staff believes that MADF knew, or should have known, that its system was not in compliance with the Display Rule and failed to take steps to bring its system into compliance. The Staff recommends that this matter be referred to the Division of Enforcement for further action.

Pages 9 through 17 redacted for the following reasons:

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Examination Material, Deliberative Process