



Date: October 5, 2017
Audience: NYSE, NYSE American and NYSE Arca Traders
Subject: Enhancement to Reopening Process after LULD Trading Pause

On November 20, 2017, NYSE, NYSE American and NYSE Arca, as participants in the LULD Plan, will implement changes as described in the twelfth and thirteenth amendments to the LULD Plan relating to how trading reopens after an LULD Trading Pause. At the same time, Primary Listing Exchanges that conduct automated reopenings following a Trading Pause, including NYSE Arca and NYSE American, will implement changes to their reopening processes.

Industry testing of the changes will be conducted on October 28 and November 18, 2017. (See SIP testing notices linked below. Test scripts will be published separately.

LULD Plan Overview and Current Reopening Process

The LULD Plan mechanisms mitigate extraordinary market volatility by preventing trades outside specified Price Bands. The Price Bands are set at a percentage level above and below the average reference price of the security over the immediately preceding five-minute period. Trading in a security enters a Limit State if the National Best Offer (Bid) equals but does not cross the Lower (Upper) Price Band. Trading exits a Limit State if, within 15 seconds of entering the Limit State, all quotations at the band are executed or canceled in their entirety. If the market does not exit a Limit State within 15 seconds, the Primary Listing Exchange declares a five-minute Trading Pause, which applies to all exchanges and off-exchange trading venues. If the Primary Listing Exchange is unable to re-open under its auction rules at the end of five minutes (e.g., market order imbalance remaining or pair-off is outside its auction collar bands), the Trading Pause is extended with no further action for another five minutes. If, at the end of 10 minutes from the initial Trading Pause, the Primary Listing Exchange is still unable to reopen under its auction rules, other markets may resume trading in that symbol.

Reopening Changes

Amendment 12 of the LULD Plan provides that a Trading Pause will continue until the Primary Listing Exchange has reopened trading, even if such reopening is more than 10 minutes after the beginning of the Trading Pause. This amendment would preclude potential scenarios when trading could resume without Price Bands. As a result, non-primary markets will remain in an extended LULD Trading Pause until they have received LULD Price Bands from the Securities Information Processor ("SIP"), which would be either when the Primary Listing Exchange reopens or if the Primary Listing Exchange has notified the SIP that it cannot reopen because of systems or technology issues.

In connection with Amendment 12 to the LULD Plan, the Primary Listing Exchanges that run electronic auctions have amended their automated auction trading rules to provide for harmonized procedures for extending the Trading Pause and a concurrent widening of their auction price collars every five minutes.¹

¹ The Participants believe that the amendments to the LULD Plan, together with the standardized approach to reopening trading following a Trading Pause, reduce the potential that an order or orders entered by a member of



The description below of the automated reopening process applies to NYSE Arca and NYSE American. Paragraphs d. and e. apply to the reopening on the New York Stock Exchange as well.

a. Halt Auction Times and Extensions

As today, the initial LULD Trading Pause will remain in effect for a full five-minute period. If a reopening auction cannot be priced within the applicable auction price collars, the Trading Pause will be extended for a full five minutes. The Trading Pause will continue to be extended for additional five-minute periods if the reopening auction cannot be priced within the applicable auction price collars. However, 10 minutes after the Trading Pause is triggered, a reopening can occur whenever the reopening criteria have been met, without waiting for a full five minutes of that extended period to elapse.

b. Auction Collars

At the beginning of the Trading Pause and each extension, the Primary Listing Exchange will send to the SIP a reference price and a lower and upper auction price collar. The reference price for the auction price collars applicable to a reopening will be based on the Price Band that was last in a limit state that preceded the pause. For example, if there is selling pressure, the auction reference price will be the Lower Price Band. The lower auction price collar would be 5% below that auction reference price (or \$0.15 for stocks with a reference price below \$3.00). To address mean price reversion, the upper auction price collar will be the Upper Price Band.

Example:

- Symbol XYZ goes into a Limit Down Trading Pause when the Price Bands are 90 x 110
- The lower Price Band price of \$90.00 becomes the reference price for the re-opening auction
 - Lower auction price collar is calculated by subtracting 5% of the Reference price (4.50) from the Lower Price Band
 - The upper auction price collar remains at the Upper Price Band
- Auction price collars at the time of the initial LULD Pause:
 - Upper auction price collar: 110
 - Lower auction price collar: 85.50

Note: The dollar value of the initial adjustment remains constant. In this example, the adjustment of \$4.50 would be used each time the collars are adjusted, regardless of side.

At the start of a Trading Pause and with each extension, the SIP will publish the following information provided by a Primary Listing Exchange:

- auction reference price;
- lower auction price collar;
- upper auction price collar; and

a Primary Listing Exchange would cause a reopening auction to execute at a clearly erroneous price. Accordingly, the Primary Listing Exchanges have amended their rules to preclude members from requesting review of a reopening auction as a clearly erroneous execution.



- number of extensions to the reopening auction. (The first five-minute period is not considered an extension and is represented by 0 in the extension field.)²

c. Widening Auction Price Collars Every Extension

After the initial five-minute Trading Pause period, the auction price collar will be widened by 5% of the auction reference price of 90 (4.50 in the example above), but only in the direction of the auction imbalance. If a security does not re-open within the five-minute extension period, a new five-minute halt period will begin, and the auction collar will again be widened by the same 4.50 in the same direction of the imbalance. (i.e., auction price collars = 81×110)

The opposite auction price collar will remain unchanged at the value that was in effect at the time the Trading Pause was initiated. If an imbalance swings to the opposite side during a subsequent extension period, the auction price collar on the side of the imbalance will be widened by the same 4.50 (i.e., upper auction price collar becomes 114.50).

d. Close of Trading

Currently, if a security enters a Trading Pause during the last 10 minutes of regular trading hours, continuous trading does not resume and the Primary Listing Exchange will attempt to execute a closing transaction using its established closing process. Pursuant to Amendment 12, continuous trading will not resume if a security enters or is already in a Trading Pause during the last 10 minutes of trading. For example, if a security enters a Trading Pause at 3:40 pm and has not reopened by 3:50 pm, it will stay in a Trading Pause and the Primary Listing exchange will attempt to execute a closing transaction using its established closing process. In such case, on NYSE Arca, NYSE American, and NYSE, all Market on Open and Limit on Open orders submitted for an anticipated reopening will be cancelled at or around 3:50 pm.

On NYSE Arca and NYSE American, the auction price collars for the Closing Auction will be the last published auction price collars for the reopening auction that did not occur.

e. Additional Changes

The LULD Plan amendment 12 also provides that, if the Primary Listing Exchange is unable to reopen due to a systems or technology issue or if it reopens trading on a zero bid or zero offer, or both, the SIP will calculate Price Bands based on the LULD Price Band at which trading was paused.

[LULD Plan / Amendments](#)

[CTS/CQS](#) and [UTP](#) Testing announcements

² At a later date, NYSE Arca and NYSE American will begin publishing this information, together with additional information regarding the Trading Halt Auction, on their proprietary data feeds.



For additional information, please contact the NYSE Trade Desk or Relationship Management.

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