From Brexit to interest rate conversations, volatility is a constant in today’s global equity markets. Therefore, the New York Stock Exchange is continually analyzing and enhancing its trading systems and processes to ensure they perform at an optimal level in any market condition. Over the last 18 months, NYSE has placed considerable focus on implementing a range of actions and initiatives to deliver tangible benefits to market participants, liquidity providers and global investors.

On September 19, 2016, the three NYSE Group exchanges, together with Nasdaq, Bats Global Markets and other exchanges, filed with the SEC an amendment to the NMS Plan to Address Extraordinary Market Volatility known as Limit Up Limit Down or LULD, designed to harmonize the reopening procedures after an LULD Trading Pause across all markets. In addition, the primary listing exchanges that conduct electronic reopenings filed rules to augment their automated reopening auction processes to implement a standardized approach that would allow for extensions of a LULD Trading Pause if equilibrium cannot be met to reopen a security within specified parameters. The SEC approved Amendment 12 to the LULD Plan in January 2017, with implementation scheduled for third quarter 2017.

The following is a summary of the initiatives already delivered by NYSE Group exchanges in order to enhance U.S. equity markets and a high level overview of Amendment 12.

**SEPTEMBER 2015: NYSE ARCA ENHANCED THE OPENING AUCTION COLLARS**

NYSE Arca enhanced its opening collars to better balance price discovery with volatility protection. The following parameters were implemented as a result:

- Securities priced between 0.01 to 25.00 - 10% price collar
- Securities priced between 25.01 to 50.00 - 5% price collar
- Securities priced between 50.01 and higher - 3% price collar

**OCTOBER 2015: INCREASED TRANSPARENCY OF NYSE PRE-OPENING INDICATIONS**

NYSE increased the transparency of pre-opening indications by continuing to publish the NYSE imbalance feed data until each security opens each day. The continuous imbalance data helps to attract liquidity regardless of market conditions.

**FEBRUARY 2016: NYSE ELIMINATION OF STOP AND GTC (GOOD-TIL-CANCEL) ORDER TYPES**

Elimination of these order types preserves market quality by protecting against potentially unexpected trading experiences during volatile markets and is part of the NYSE’s call for industry-wide conversations and education on the impact and behavior of certain order types.

**JULY 2016: IMPLEMENTATION OF LIMIT UP LIMIT DOWN PLAN AMENDMENT 10**

NYSE worked in collaboration with Nasdaq, Bats Global Markets, and other market participants to revise the LULD Plan to use a different reference price if a symbol opens on a quote, instead of a trade. Since the implementation, there has been an approximately 75% reduction in unnecessary LULD trading pauses.

**SEPTEMBER 2016: ENHANCEMENT TO LIMIT UP LIMIT DOWN PROCEDURES FOLLOWING A HALT**

All NYSE Group exchanges completed the implementation of procedures to ensure the presence of LULD price bands upon resumption of trading after a halt. This closed the “leaky band” issue that created the possibility for trades to occur outside of the price band boundaries for a short period of time after a reopening auction.

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1 NYSE and NYSE MKT do not conduct electronic auctions. Their Designated Market Makers will conduct the reopening process after an LULD Trading Pause as they do today.
KEY FEATURES AND ENHANCEMENTS AS A RESULT OF THE AMENDMENT 12 FILING
Under the current reopening process after an LULD Trading Pause, the primary market attempts to open the halted symbol at five minutes after the initial pause. If the primary market is unable to reopen at 10 minutes under its own auction rules (e.g., market order imbalance remaining or pair-off is outside its auction collar bands), other markets may resume trading that symbol. Amendment 12 of the LULD Plan provides that, if the primary market is unable to reopen at 10 minutes, non-primary markets will no longer be allowed to resume trading. Instead, they will remain in an extended LULD Trading Pause until the primary market reopens and they have received LULD bands from the SIP. The primary markets that run electronic auctions have amended their automated auction trading rules to provide a harmonized procedure for extending the trading pause and a concurrent widening of their auction price collars every five minutes.

HALT AUCTION TIMES AND EXTENSIONS
The initial LULD Trading Pause will remain in effect for a full five-minute period. In the event an extension is needed, the second time period will be extended for a full five minutes. Subsequent halt time periods will also have a five-minute duration, however reopenings after the initial 10 minutes can occur whenever the reopening criteria have been met, without waiting for a full five minutes of that extended period.

AUCTION COLLARS
The reference price for the auction price collars applicable to a reopening following a LULD trading pause 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 collars 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 collar will be the upper price band.

WIDENING PRICE COLLARS EVERY FIVE MINUTES
After the initial five-minute halt period, the auction price collar will be widened by 5% (based on the last reference price), but only in the direction of the upper or lower band that invoked the initial halt. In the event that a security does not reopen within the five-minute halt segment, a new five minute halt period will begin, and the price collar will again be widened by the same 5% in the same direction of the imbalance. In other words, after the initial 10-minute halt period, if there is still an order imbalance there will be five-minute extensions with a 5% price collar adjustment. The opposite price collar will remain unchanged at the value that was in effect at the time the Limit Up Limit Down halt was initiated.

If the primary market does not reopen after 10 minutes and has not issued a Regulatory Halt, other exchanges will not resume trading until after the primary market itself opens trading and LULD bands are received.

HALT REOPENINGS AFTER 3:50 PM
In the event a halt is in effect, and trading has not resumed by 3:50 PM, trading in the security will be deferred until 4:00 PM and combined with the closing auction process at each exchange.

ADDITIONAL DOCUMENTATION
NYSE Arca filed rules with respect to Amendment 12 changes can be found here.
The public filing for Amendment 12 changes can be found here.