

BME'S EQUITY TRADING SYSTEMS INCIDENT HANDLING

Protocols and Standards

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BME X

a SIX company

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The Spanish Stock Exchanges of Barcelona, Bilbao, Madrid, and Valencia and Sociedad de Bolsas (hereinafter in this document, all of them as “BME’s Equity Trading Systems”) have developed this document which summarizes the key procedures and protocols applicable in case of an outage in the Spanish Stock Exchange trading systems and in the Spanish Stock Exchange Interconnection System (SIBE).

The Spanish Stock Exchanges of Barcelona, Bilbao, Madrid, and Valencia are regulated markets whose functions are set out in their own internal regulation and rules. These functions include supervising the suitability of technical trading resources with regard to the conditions in which stock market trading is performed. In particular, to ensure that the trading system has appropriate capacity and monitor its rate of use, in order to prevent trading dysfunction.

Sociedad de Bolsas is the legal entity in charge of the management and functioning of the Spanish Stock Exchange Interconnection System (SIBE). According to Circular 4/2021, related to rules and regulations of the Trading and Supervision Committee, it is responsible for monitoring and controlling the performance of the Spanish Stock Exchange Interconnection System (SIBE), ensuring correct technical price formation and equal operational access to the system and dissemination of information under the same conditions for all members of any Spanish Stock Exchange with access to such Platform in accordance with the established requirements and procedure.

BME’s Equity Trading Systems will update this document and the procedures and protocols to be in concordance with the latest advances and aligned with an evolving market.

1 Technical Performance in Outages

At BME's Equity Trading Systems, the security and stability of technical structures is at the core of the daily business. BME's Equity Trading Systems have developed several contingency procedures and lines of defence that aim to ensure the continuity of operations. In this way, the technical architecture of the software and hardware is structured to prevent any trading system dysfunction:

- BME's Equity Trading Systems count with a robust back-up system that is tested regularly, and two data centres physically separated (in Las Rozas headquarters and in the Madrid Stock Exchange Palace building).
- The trading systems are clustered into partitions according to segments that work independently from each other on own hardware.
- In case of a contingency, the Equities segment back-up system is prepared to be activated automatically.
- BME's Equity Trading Systems have two different energy suppliers with physically separated cable lines to ensure the energy sources. In addition, BME's Equity Trading Systems count with an own energy generator.

2 Communications: external and internal

2.1 External communications

- **First notice:** BME's Equity Trading Systems will provide near immediate notification to trading participants whenever an outage occurs. BME's Equity Trading Systems will inform market members about the market status complying with the MIFID II directive (article 54.2) via e-mail, webpage ("traffic light") and bilateral calls.
- **During incident:** BME's Equity Trading Systems will provide regular status updates until resolution.
- **Final notice:** When having certainty of market re-opening, BME's Equity Trading Systems will inform participants of expected timing on a case-by-case basis. BME's Equity Trading Systems will allow a reasonable timeframe for market members to react considering the length and severity of the outage.

2.2 Internal communications

- Continuous communication between IT and BME's Equity Surveillance Department.
- All communications coordinated by all BME's Equity Surveillance Department.

3 Market re-opening

Depending on the severity of the incident, BME's Equity Trading Systems will seek to restore the market in an orderly and controlled manner, whilst aiming to minimize the outage duration. The timing will aim to be flexible whilst giving the market sufficient notification prior to reopening.

BME's Equity Trading Systems will be in contact with market participants and assess their readiness, but the decision of when to reopen will always rest solely with BME's Equity Trading Systems.

BME's Equity Trading Systems opening procedure will be as follows:

- **Pre-trading:** BME's Equity Trading Systems will provide a timeframe where trading participants may maintain their orders, but no matching occurs. The duration of this pre-trading phase will depend on the length and severity of the incident. BME'S Equity Trading Systems will assess the readiness of market participants.
- **Opening auction:** After an outage, BME's Equity Trading Systems will provide a 10 to 30 minutes opening auction depending on the severity of the outage. BME's Equity Trading Systems will provide sufficient time for liquidity to bundle before the instruments are moved to continuous trading.
- **Closing auction:** Different scenarios can occur.
 - o In case the Outage affects the closing auction, BME's Equity Trading Systems will evaluate the issue and decide when the closing auction should take place according to the length and severity of the outage.
 - o In case the Outage makes the closing auction impossible, BME's Equity Trading Systems will follow the Market Model Protocol: if the traded volume is greater than 500 shares, the closing price will be the last traded price; if not, the closing price will be the reference price of that session.

4 Supervision of fair and orderly trading conditions

Before the auction is concluded and the instruments are switched to continuous trading, BME's Equity Trading Systems will carefully monitor market status and activity. BME's Equity Surveillance Department will regularly observe the number of connected trading participants, the general status of the market and type of trading participant connectivity.

BME's Equity Trading Systems will supervise the suitability of technical trading resources with regard to the conditions in which Stock Market trading is performed. BME's Equity Trading Systems will ensure that the trading system has appropriate capacity and monitor its rate of use, to prevent trading dysfunction.

BME's Equity Trading Systems will monitor the correct technical formation of prices, ensuring equal operational access to the trading system. These are all factors to assess market quality and orderly trading conditions.

5 Market Reconciliation: market reset and order cancellation

BME's Equity Trading Systems will take actions to:

- Protect the authenticity of the order book and ensure the reliability and fairness of the trading system.
- Provide sufficient time to market participants to cancel or modify open orders and, exceptionally, purge the order book on their behalf upon written request.

Also, during an outage, no order entry is permitted. In this way, BME's Equity Trading Systems will restart the system with a pre-trading phase, where no matching occurs.

6 Post-Outage Protocol

After an Outage, BME's Equity Trading Systems will conduct an analysis to detail every aspect of the incident and obtain a clear picture of the sequence of events. BME's Equity Trading Systems always seeks to implement the latest knowledge to improve efficiency and expand opportunities. In addition, BME's Equity Trading Systems welcomes feedback to keep improving and perfecting the trading system.

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