LuxSE
Market Outage Plan

Edition 11/2024

LUXEMBOURG
STOCK EXCHANGE

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In the dynamic landscape of financial markets, the uninterrupted functioning of trading venues is paramount to ensure fair and efficient market operations. Nevertheless, unforeseen events such as technical glitches, cyber-attacks, or natural disasters can disrupt the normal functioning of trading platforms.

In response to these challenges, and with the aim of maintaining the integrity of financial transactions, the Luxembourg Stock Exchange (LuxSE) has developed its Market Outage Plan (the "Plan"). This Plan offers market participants a structured and standardized framework to effectively manage and navigate through such crises, with the ultimate goal of minimizing the impact of disruptions on market participants.

As recommended by the European Securities and Markets Authority (ESMA) in its final report on Market Outages[1] and in accordance with the requirement to periodically review business continuity arrangements outlined in Article 17 of RTS 7[2], this Plan undergoes a comprehensive review every two years.

As LuxSE's markets are hosted on the trading platform of Euronext (Optiq), LuxSE relies on Euronext when responding to (and communicating concerning) an outage. For any matters not covered under LuxSE's Market Outage Plan, and specifically addressed by Euronext, please refer to Euronext's Playbook for incident management (**https://connect2.euronext.com/en/trade/playbook**).

1 ESMA Final Report on market outages.
2 Commission Delegated Regulation 2017/584 (RTS 7).

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2.1 Roles and responsibilities

Markets & Surveillance department (M&S):
When a potential incident is identified either by LuxSE or Euronext, the communication process is managed by M&S, responsible for informing the public, trading members, regulator, and internal stakeholders. All communications on the trading resumption are also under the responsibility of M&S.

IT department/Risk management:
An incident is open internally by the IT department and the follow up of the incident is done by the Risk Management department.

Executive Committee:
The management of the incidents and outages described throughout the Plan are under the supervision of the Executive Committee.

2.2 Priorities

In case of an outage, LuxSE's priorities are as follows:

1. Keep the relevant market open as long as it is operating in a fair and orderly manner and more generally in compliance with applicable regulations.
2. Restore the service as quickly and safely as possible, whilst fulfilling LuxSE's regulatory responsibilities. This includes securing the consistency between order and trade records at all times and minimising impact on trades (RTS 7).
3. Communicate appropriately and in a timely manner to all stakeholders.
4. Prepare a secured end-of-day closing on the day of an incident.
5. Ensure normal trading hours on the day after an incident.
6. Carry out a post-event review and take actions to avoid the recurrence of an outage.

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2.3 Decisions which can be taken during an outage

LuxSE may take exceptional and punctual measures to protect market participants and ensure fair and orderly markets during an outage, including the following:

1. **Manually halt the market** partially (at instruments, or segment level).
2. **Deactivate a misfunctioning feature** to keep the market open.
3. **Adjust usual timetables**, including changing market opening and closing auction times, or cancelling usual trading phases (call or continuous trading phases).
4. **Cancel transactions** which occurred in improper market conditions.
5. **Perform a global order book purge**.
6. **Suspend one or several trading member(s)**, if a member's activity is the source of the outage.
7. **Delay closing auction until 18:00 CET maximum for cash instruments**. Members will be informed at least 30 minutes before the delayed closing auction.
8. **Use alternative methodology to calculate closing prices**. In case the closing auction is missed (scheduled during an outage), LuxSE will first postpone the auction as much as possible, and, if the service is not yet restored, then the last available price of the day (last traded, valuation, indicative) will become the closing price of the day.
9. **Migrate to the disaster recovery site to ensure business continuity in extreme cases**.

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2.4 Strategy to resume trading

A market halt may be caused by an automatic failover in the trading chain (protective measure for self-detected issues) or by market operation teams if the market is not fair and orderly anymore.

Conditions to reopen:
The operational team in charge of managing the outage will decide when trading can safely be resumed:

1. The market must be fair and orderly.
2. The consistency between orders and trades must be ensured.
3. Trading members of the exchange must be in position to resynchronize their systems with LuxSE central order book, and
4. Trading members of the exchange must be previously informed.

The following rules will be complied with:

5. LuxSE will always inform market participants before reopening and share the timeline via a **market status** on LuxSE website and via email for the trading members.
6. A unique **time stamp**, corresponding to the time when the latest item persisted, will be provided to all trading members, to allow synchronization between their trading systems and Optiq.
7. A **pre-opening/call phase** will be scheduled to allow all trading members to update their orders.
8. The pre-opening phase will last **15 minutes**. This phase may however be reduced to meet key cut-off times such as the closing auction.
9. In the event that the **integrity of orders** being stored on Optiq systems is compromised, Euronext, under the supervision of LuxSE/M&S, will perform a global order book purge (regardless of order type and maturity). When performing such action, LuxSE will issue a global communication and may not be in a position to send individual order cancellation acknowledgments.
10. Trades for which an **acknowledgement** has been sent by Optiq before the time stamp and received by a trading member will be considered as valid (with the exception of trades that are considered to have been conducted under improper conditions or have been individually cancelled by LuxSE).

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2.5 Communication

After the discovery of an incident, that incident will be promptly reported via 3 channels. As LuxSE's markets are hosted on the Euronext's trading platform, it will be reported either:

a. Via the Euronext's market status webpage (even if the issue is not yet ascertained): live.euronext.com/market-status,

b. Via the market status section on LuxSE website: https://www.luxse.com/trading/opening-hours-and-closing-days, and/or

c. Via email to the trading members.

Euronext and LuxSE aim at reporting such issues within 30 minutes after the detection of the incident.

The incident will also be reported to the Luxembourg financial sector supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), in compliance with applicable regulations.

Euronext's market status webpage will be updated every 30 minutes thereafter (even if the situation remains unchanged), together with next steps for incident resolution and/or any other additional information or instructions.

LuxSE will communicate at least 15 minutes in advance prior to pre-opening of the market and will announce any potential deviation from standard timeline (e.g. late closing auction) and potential purge of order books. The communication will be done via the LuxSE's market status webpage and via email to the trading members.

Customers subscribing to the Euronext's Market Status Alert email notification service will receive System Status alerts by email with details of the alerts posted on the market status webpage.

For high-severity incidents, an Info-Flash from Euronext is sent overnight by email to provide more information and confirm arrangements for the following morning.

2.6 Management of orders and trades

In addition to the above focus areas, the integrity of orders and trades is critical to recover services in a successful way.

Trades for which an acknowledgement has been sent by Euronext's trading platform' Optiq and received by a trading member will be considered as valid (with the exception of trades that are considered to have been conducted under improper conditions or have been individually cancelled by LuxSE).

The transactions cancellation policy is defined in rule 4403.3 of LuxSE's Rules & Regulations (R&R) and LuxSE may cancel trades for "improper trading conditions". Which conditions constitute "improper trading conditions" is determined by LuxSE in its sole discretion.

For the avoidance of doubt, in the case of any discrepancy, the provisions of the LuxSE's R&R prevail over this Plan.

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3 Post-mortem

In the event of a market outage, LuxSE will complete the market status communication by the issuance of a notice, after-market hours, to provide details about the root cause (if available) and potential corrective actions required to avoid recurrence of similar issues. In that case, LuxSE will also provide a detailed report to the CSSF with additional information on the outage and the mitigating measures that have been undertaken.

4 Contacts

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The designated department for all relevant steps under this Plan is M&S. Should you have any questions about any of the relevant steps, do not hesitate to contact us:

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https://www.luxse.com/trading/opening-hours-and-closing-days

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