



LMEselect and LMEsmart Testing Services

Contents

1	Version Control.....	3
2	Document Overview	4
	2.1 Purpose	4
	2.2 Scope	4
	2.3 Document Owner	4
3	Conformance Testing	4
	3.1 Conformance Requirement	4
	3.1.1 LME System Updates	4
	3.1.2 Member or ISV Systems	4
	3.2 Testing Environment	4
	3.2.1 Access Conditions	5
	3.2.2 Availability and Support	5
	3.2.3 Test Products.....	5
	3.2.4 Accessing Member Test Systems	5
	3.2.5 Self-certification Process	5
4	Algorithm Certification	6
	4.1 Test Environment	6
	4.1.1 Access Conditions	6
	4.1.2 Availability and Support	6
	4.1.3 Accessing the System	6
	4.2 Test Products	6
	4.3 Certification Process	7
	4.4 Certification Attestation	7
5	Appendix 1.....	8



1 Version Control

Version	Date Updated	Updated by	Comments
1.0	10.08.2017	Trading Operations	Baseline Version
1.1	02.11.2017	Trading Operations	Removal of reference to detailed algorithm certification guide
1.2	05.02.2019	Trading Operations	Minor changes to LMEsmart conformance
1.3	05.06.2020	Trading Operations	Amendments to contact details



2 Document Overview

2.1 Purpose

This document aims to provide Members and independent software vendors (ISVs) wishing to complete conformance testing or certification of algorithms for order routing on LMEselect, or conformance testing for matching on LMEsmart, with the appropriate information on the services available.

2.2 Scope

Systems in scope of this document are LMEselect and LMEsmart.

2.3 Document Owner

The Market Operations department is the owner of this document.

3 Conformance Testing

3.1 Conformance Requirement

3.1.1 LME System Updates

Prior to any deployment or update of LMEselect or LMEsmart, the LME and its Members and ISVs shall engage in testing of the system. The LME may issue guidelines from time to time concerning such testing, and Members shall comply with such guidelines.

3.1.2 Member or ISV Systems

Members must undertake conformance testing prior to the deployment or a substantial update of (a) LMEselect or LMEsmart, or (b) the Member's trading, trading algorithm or trading strategy or (c) prior to a new on-boarding member going live. The conformance testing shall ensure that the basic functioning of the Member's trading system, algorithm and strategy complies with the LME's conditions set out in the LME Rules and in this policy. The conformance testing shall verify the functioning of the following:

- a. the ability of the system or algorithm to interact as expected with the LME's matching logic and the adequate processing of the data flows from and to the LME;
- b. the basic functionalities such as submission, modification or cancellation of an order or an indication of interest, static and market data downloads and all business data flows; and
- c. the connectivity, including the cancel on disconnect command, market data feed loss and throttles, and the recovery, including the intra-day resumption of trading and the handling of suspended instruments or non-updated market data.

3.2 Testing Environment

The LME provides testing environments to enable Members, prospective Members and ISVs to undertake conformance testing. These test environments are completely separate from the production



environment, and are accessed via dedicated test environment log-ons which cannot be used to access the production environment.

3.2.1 Access Conditions

Members, prospective Members and ISVs wishing to use the LME's testing environments, must submit requests for user access via email to membertest@lme.com

3.2.2 Availability and Support

System	Hours of Operation	Hours of Support	Contact
LMEselect	00:45 – 20:30	07:00 – 20:00	tradingoperations@lme.com
LMESmart	01:00 – 20:00	07:00 – 20:00	posttradeoperations@lme.com

For the avoidance of doubt, queries/issues raised outside of the Hours of Support detailed above will only be addressed during the Hours of Support. Support will be provided as best endeavours where Production takes priority.

3.2.3 Test Products

The products available in production and all underlying instruments relating to those products, can be tested in these environments.

3.2.4 Accessing Member Test Systems

Member Test is split into two areas: Member Test A and Member Test B.

Member Test A: is a mirror of LME's production environment, providing Members and ISVs with a testing platform to test their FIX feeds and trading strategies.

Member Test B: is the test environment which supports the next scheduled upgrade to LMEselect and LMESmart – i.e. "next release" environment.

Both test environments offer the same functionality as the production environment and are accessible over LMEnet and the Internet (with restrictions).

Detailed connectivity information can be found in the LME Systems Connectivity Guide located in the Member area of the LME website - <https://www.lme.com/Trading/Systems>

Detailed MiFID II testing information can be found on the MiFID II page of the LME website – <https://www.lme.com/About/Regulation/MiFID-II/member-isv-testing>

3.2.5 Self-certification Process

Members, prospective Members and ISVs are advised to download key reference documents from the LME website to assist with their preparations. These, along with a detailed self-certification guide and test packs, can be located on the relevant system pages:

- <https://www.lme.com/en-GB/Trading/Systems/LMEselect>



- <https://www.lme.com/en-GB/Trading/Systems/LMEsmart>

4 Algorithm Certification

Members who wish to deploy algorithms must certify to the LME that the algorithms have undergone conformance testing to avoid creating or contributing to disorderly trading conditions prior to the deployment or substantial update of a trading algorithm or trading strategy and explain the means used for that testing. It shall be the Member's responsibility to determine whether a change to an existing algorithm, that has already been deployed, constitutes a "substantial update" or not and whether further certification to the LME is required.

4.1 Test Environment

The LME provides dummy products in the production environment for members to test their algorithms. The dummy products are segregated from the rest of the market, managed on a separate matching engine and accessible to users set up solely for access to these products. For the avoidance of doubt, these dummy products are not available in either Member Test A or Member Test B environments.

4.1.1 Access Conditions

Members, prospective Members and ISVs must use the LME's testing environments provided for these purposes in accordance with the following conditions:

- requests for user access must be sent via email to: membertest@lme.com; and
- users profiles will be established for access to dummy products only

4.1.2 Availability and Support

System	Hours of Operation	Hours of Support	Contact
LMEselect	00:45 – 20:30	01:00 – 20:00	tradingoperations@lme.com

For the avoidance of doubt, queries/issues raised outside of the Hours of Support detailed above will only be addressed during the Hours of Support.

The environment is functionally equivalent to production, although performance is not guaranteed to be the same due to the test nature of this functionality.

4.1.3 Accessing the System

Detailed connectivity information can be found in the LME Systems Connectivity Guide located in the Member area of the LME website - <https://www.lme.com/Trading/Systems>

Detailed MiFID II testing information can be found on the MiFID II page of the LME website – <https://www.lme.com/About/Regulation/MiFID-II/member-isv-testing>



4.2 Test Products

The following products, and all underlying instruments relating to those products, can be used for algorithm testing (in the production environment, segregated from the rest of the market):

- a. Base metal look alike (XB)
- b. Precious metal look alike (XU)

4.3 Certification Process

Members and prospective Members are advised to download key reference documents from the LME website to assist with their preparations. These can be located on the relevant system page:

- <https://www.lme.com/Trading/Systems/LMEselect>

4.4 Certification Attestation

Members are required to certify that the algorithms they deploy have been tested to avoid creating or contributing to disorderly trading conditions prior to the deployment or substantial update of a trading algorithm.

Certification to the LME shall take the form of an email to tradingoperations@lme.com, which shall contain the following information:

- a. Member;
- b. Metal(s) for which the algorithm will be deployed;
- c. Testing methodology undertaken by the Member;
- d. Testing period for the algorithm;
- e. Results of the testing undertaken;
- f. Proposed deployment date of the algorithm;
- g. Unique identifier to be used for any orders submitted via the algorithm; and
- h. Contact name and details for compliance contact within the Member firm to whom any queries should be addressed to.

A template can be found attached to this document as Appendix 1 (LMEselect - Algorithm Certification Attestation).



5 Appendix 1

LMEselect – Algorithm Certification Attestation

Member
Metal(s) for which the algorithm will be deployed
Testing methodology undertaken by the Member
Testing period for the algorithm
Results of the testing undertaken
Proposed deployment date of the algorithm
Unique identifier to be used for any orders submitted via the algorithm
Contact name and details for compliance contact within the Member firm to whom any queries should be addressed to

Name:

Signed:

Please email completed attestations to tradingoperations@lme.com

