Application Memorandum for

REGULATORY AUTHORISATION

Collateral Management Framework

NOVEMBER, 2023

EURONEXT CLEARING

TABLE OF CONTENTS

Executive Summary

The objective of this document is to support the regulatory review and approval process with respect to EURONEXT CLEARING (from now on addressed as "ENXC") Collateral Management framework, by providing an overview of all ENXC's proposed amendments and expected changes. The current document describes the amendment to the collateral framework related to the second phase of the clearing migration. That is, the amendments discussed in this document are going to be performed as of June 2024 contextually to the migration of Euronext Derivatives and Commodity legacy markets to ENXC[1] and pending Regulators' approval.

Out scope of the current document is the haircut methodology, which remains unchanged.

The document in organized in the following sections:

- Service Description, which describes the intended changes to be implemented to the existing[2] collateral risk framework arising from the second phase of the clearing migration program of Euronext and the proposed timeline for their implementation;
- Internal governance approval, where a description of ENXC internal approval process with respect to the collateral framework is provided (e.g. haircuts periodical approval, wrong-way-risk multipliers revision, etc.). No changes are expected compared to current framework;
- Comprehensive Risk Assessment, which details the main implications of the new collateral systems on aspects such as Operational Risk, Systems and Processes and Compliance;
- Annexes and Support Documentation.

2. Service Description

2.1 General Overview

ENXC accepts cash as well as non-cash collateral from Clearing Members to cover their margin requirements. Non-cash collateral is subject to specific limits, as it will described in the following sections.

[1] Related amendments are going to be applied to Borsa Italiana Markets after the interim period. The interim period is expected to range from the migration of Euronext legacy markets to ENXC up to the fourth quarter of 2024. After the end of the interim period, amendments as of phase-1 (discussed in a previous regulatory submission) and phase-2 (discussed in this document) will be applied also to Borsa Italiana Markets

[2] including phase 1 changes already part of the previous submission

The effectiveness of non-cash collateral accepted by ENXC depends on the selection of appropriate assets qualified as eligible collateral, with the objective to reduce credit risk exposure and market risk.

Since certain collateral types may have inherent risks related to price volatility and liquidity of the asset, appropriate eligibility criteria have to be set before accepting a security as collateral.

The current collateral framework, which amendments are discussed in this document, foresees that Clearing Members are entitled to deposit cash or bonds to cover Initial Margins, while to cover the Contribution Quota to the Default Fund only euro cash is admitted.

As already anticipated, the current document discusses the amendments to the existing collateral framework related to the **second phase** of the **clearing migration** of ENXC. The amendments to the collateral framework will consist of:

Phase 2: The second phase will take place contextually to migration of Euronext Derivatives legacy markets to ENXC.

Related amendments, that will applied from June 2024 to the end of the interim period[3] to ENX legacy markets only, are reported below:

- Non € cash currencies as collateral to cover margin requests: USD and GBP subject to defined haircuts;
- High liquid bonds also non-€ denominated to cover margin requests and subject to defined limits (except for variations margins on futures and option premiums for which € and non-€ cash only will be accepted);
- NCBs guarantees (issued by the National Central Banks of Belgium and The Netherlands – NBB and DNB - used by Dutch and Belgian clients) for EOD and ITD initial margins and Default Fund, subject to defined limits.

2.2 Current Collateral Risk Framework Overview

This paragraph outlines the current collateral framework, including the changes intervened with the migration of Euronext cash markets to Euronext Clearing in October 2023 which were part of a prior art.49 submission. ENXC collects margins both in form of cash and securities. ENXC sets the maximum proportion of securities that is willing to accept (with respect to initial margins that can be posted both in securities or euro cash). ENXC requires that at least 50% of initial margins are covered with cash. Additionally, concentration limits apply to securities posted as collateral. The ratio between the sum of the collateral value

[3] The interim period is expected to range from the migration of Euronext legacy markets to ENXC up to the fourth quarter of 2024. After the end of the interim period, amendments as of phase-1 and phase-2 will be applied also to Borsa Italiana Markets

of deposited securities of a single Country and the Initial Margins calculated should be no greater than 45%.

Here below we summarize all the aspects that will remain unchanged:

The set of securities accepted by ENXC includes bonds that are issued by European governments and supranational entities[4]. Conditions based on the rating and GDP[5] of the issuer of the government bond instruments are applied. Conditions based on the amount outstanding of eligible securities are applied to supranational issuers. Conditions are set on the maturity[6] of the bonds. Bonds embedding some type of optionality (callable, sinkable, puttable), or stripped bonds, are excluded from eligibility.

In order to ensure rigorous risk management, ENXC is willing to accept only high liquid securities traded on markets where ENXC has access. Securities that are not traded on MTS markets are accepted as collateral only if they show a LQA[7]>80.

ENXC Risk Management team always retains the possibility to discretionally reject securities in case new material risks affecting a security or a given set of security arise[8].

ENXC also establishes ad-hoc Risk Limits, in terms of maximum notional amount that can be posted for every specific eligible security, such as BTP Italia, BTP Futura, EU Sure Bonds, EU Next Gen Bonds[9]. In particular, the maximum amount refers to each single issue of

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[4] Supranationals are European ones, such as: EFSF European Financial Stability Facility, EIB European Investment Bank, ESM European Stability Mechanism, EU European Union (SURE, NXG)
[5] Have a long-term rating qualified as "investment grade" (at least BBB- or equivalent) and assigned by at least one of the following agencies: Fitch, Moody's, Standard & Poor's and GDP greater than 150bn. Additionally, the given country has to be a be a Member of the OECD. The list of countries is periodically reviewed by the Internal Risk Committee.
[6] Residual maturity of the security has to fall between 1 week and 50 years
[7] LQA score is an indicator provided by the info provider Bloomberg. Measured on a scale of 1 to 100 (100 being the most liquid) it summarizes the relative liquidity of an instrument in the covered universe. The LQA Liquidity Score is a relative score measuring the percentile ranking of the specified security's liquidation cost within universe of fixed income securities. The score is based on the average liquidation cost for each security across a range of duration adjusted volumes. The score calculation incorporates all the key liquidity metrics (cost, volume, and time). The Liquidity Score is a relative 1-100 ranking based on LQA's probability of execution metric, that estimates the likelihood of executing a trade within the specified volume, cost and time parameters. The level of 80 has been chosen considering the output of several analyses run by the CCP both on collateral and on its investment universe, which have shown that applying such a threshold ensures considering only securities characterized by high-level of liquidity, in terms of amount outstanding.
[8] Under approval of the ENXC CEO after the analyses received by Risk Management and discussed in the Internal Risk Committee. ENXC may also set additional conservative restrictions, on the securities accepted as collateral, based on the maximum number of no-quotation days.
[9] For other types of issuance series, assimilable to the types described above (for instance, OAI) ENXC retains the faculty to accept/reject the security based on an internal liquidity score assessment. The rule applies at ISIN level.

that specific type of security that can be posted as collateral, for each direct Clearing Member. These limits are periodically reviewed.

Such limits will remain unchanged.

For further details please refer to section **Risk Management|Parameters** of ENXC website **Euronext Clearing | euronext.com**.

2.3 Collateral framework extension

As already anticipated, ENXC is going to introduce the following set of changes to its existing collateral framework:

2.3.1 Eligible Cash extension

This amendment envisages the possibility for Clearing Members to cover Initial Margins requests by posting cash denominated in a currency other than EUR.

ENXC is going to introduce the possibility to post cash denominated in the following additional currencies to cover Initial Margins (IM) obligations only: **USD** and **GBP**[10], noting that IM will continue to be calculated and called upon Clearing Members exclusively in EUR.

2.3.2 Eligible Assets extension

This change relates to the universe of eligible securities to be accepted as collateral by ENXC.

Euronext Clearing will further enlarge the list of securities presently admitted as Collateral, available to Clearing Members to cover Initial Margins requests, to new issuers and also to new currencies beyond EUR. In addition to EUR, Euronext Clearing plans to accept government bonds denominated in **NOK**.

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[10] Similarly to what currently in place for the EUR/USD exchange rate, the EUR/GBP exchange rate will be subject to a specific haircut based calculated on a time series of the same length as currently used for the EUR/USD)

In addition to countries that are currently accepted, ENXC will accept also government bonds issued by Denmark and Sweden. In order to be accepted, the securities denominated in EUR and issued by the countries above, will be required to be included in the ECB list of acceptable collateral.

As far as non-EUR denominated securities are concerned (namely denominated securities in NOK), the government bonds of Norway will be accepted. In these case, ENXC will address the exchange rate risk through the introduction of haircuts. The methodology to calculate the haircuts remains unchanged.

2.3.3 National Bank Guarantees (NBB and DNB)

As prescribed by EMIR art. 46, a CCP shall accept highly liquid collateral with minimal credit and market risk to cover its initial and ongoing exposure to its clearing members. For non-financial counterparties, a CCP may accept bank guarantees, taking such guarantees into account when calculating its exposure to a bank that is a clearing member.

Therefore, ENXC decided to expand the type of acceptable collateral to include National Central Bank Guarantees (NCBs), issued by the National Bank of Belgium (NBB) and Dutch National Bank (DNB). The NCBs guarantees may be used by Dutch and Belgian Clearing Members to cover their margins and Default Fund Contribution covering their positions across all Euronext Legacy markets . These members can provide collateral by transferring, directly or indirectly, to a central bank, assets accepted as Collateral by such central bank under the conditions defined by the central bank for the issuance by it of a Central Bank Guarantee. These Clearing Members will be allowed to cover margin requests as well as Default Fund contributions by using National Central Bank guarantees.

ENXC has defined a cap, that is a maximum percentage of NCB usable as collateral with respect to margin request. This cap (initially set at 50%) is enforced as NCB guarantees to cover margin requests, posted by participants *in bonis*, cannot be used to cover liquidity needs.

For what concerns the possibility of covering Default Fund contribution requests by posting NCB guarantees, a cap has been introduced but it is not enforced (cap is set at 100%). The reason for the asymmetry between the cap on margins vs. DF (50% vs. 100%) lies in the proportion they represent with respect to total resources (the weight of margins is greater than the weight of DF with respect to total resources)..

The guarantee is accepted as collateral by ENXC only upon the receipt of a written confirmation from NBB or DNB that the margin and/or default fund requirements of a given Clearing Member are effectively covered by the guarantee.

In case of default of the Clearing Member, ENXC has to notify the default to NBB or DNB and contextually submit a formal request to call for the amount of guaranteed liquidity.

The central bank will then provide ENXC with the requested liquidity. The guarantee is at first demand and cash is sent the same day of the default.

Liquidity Impacts of the introduction of NCB guarantees

The Liquidity Coverage Ratio (LCR) is the Liquidity Risk Indicator that is monitored by ENXC assuming a Stressed but plausible market conditions.

The LCR is the ratio between Stressed Available Assets and Total Needs in the scenario where the two most exposed banking groups (in terms of withdrawals and other exposures) are supposed to default. It is monitored on a daily basis.

In case of default of the two most exposed banking groups, ENXC has to have sufficient liquid resources in order to meet liquidity obligations of the defaulting participants. In particular, the liquid resources have to be sufficient enough to cover the withdrawals and the ongoing liquidity needs (due to ordinary daily activities). The liquid resources promptly available at time T are:

1. The cash deposited at Central Bank (mainly coming from margins and default fund paid in cash);
2. Cash deposited at authorized Credit Institutions;
3. Non collateralized Credit lines (excluding that one of defaulting members);
4. Securities delivered by Clearing Members for Initial Margin coverage (they can be liquidated at time T with refinancing tool of Central Bank);
5. Securities held for investments (they can be liquidated at time T by Central Bank). Another component of Stressed Available Asset is the "Securities withdrawn from the settlement system in place of the defaulting CMs" that has to be considered as an "activable liquidity resource".

The goal of this paragraph is to detail the impact of the introduction of National Central Bank Guarantees within the new collateral framework on the Liquidity profile of ENXC.

In doing so, the starting point of the simulation already factorizes the migration of derivatives markets to ENXC as detailed in the separate dedicated art.15 self assessment submission. NCB guarantees have been treated in the aforementioned art.15 self-assessment, where concentration limits (caps) were foreseen to safeguard the Liquidity Coverage Ratio under stressed market conditions. In this document, a more detailed analysis on the liquidity implications arising from the introduction of NCB guarantees is discussed.

The starting point of the simulation is, similarly to what already performed in the art.15 self assessment for derivatives[11], the lowest Liquidity Coverage Ratio (LCR) observed on the 1st of July 2020,equal to **114,34%**.

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[11] Sent to Consob and Bank of Italy via e-mail on 05/07/2023

Starting from this LCR of 1st of July 2020, the simulation applies the following assumptions:

- two most exposed clearing members are unchanged.

- around 8% of liquidity needs for withdrawals are related to equity/eq. Derivatives instruments;
- the business is expected to grow by a factor of 3.8 times (with regards to the average daily volumes of BITA markets recorded over 2020);
- the Margins and Default Fund related to Equity/Equity Derivatives segment are expected to grow by a factor of 3.23 times;
- From the total margins, the margins of the two defaulting members in the stressed LCR scenario are subtracted;
- It is supposed that half of margin growth will be posted in securities collateral, to which a "average" haircut equal to 9.7% is applied.

The resulting simulated LCR would be equal to **116.19%** (above the soft limit of 110%).

This is the starting LCR used to estimate the impact of the introduction of National Central Bank (NCB) guarantees acceptance. Details are provided here below.

As anticipated, NCB Guarantees of National Central Bank of Dutch and Belgium could be posted by Dutch and Belgian ENXC Clearing Members to cover margin and Default Fund requests, subject to specific percentage caps[12].

The estimate is that Dutch and Belgian participants will weigh approximately 32% of collected margins after the Equity & Equity Derivatives migration. This estimate represents the average weight, in terms of traded volumes, of Dutch and Belgian CMs over total Equity& Equity Derivatives volumes.

National Central Bank guarantees have an impact in the liquidity stress test results, as they can be liquidated at time T only when the defaulting participant is the same that posted such NCB guarantees. This implies, in all those cases where the defaulting participant is not the one posting such NCB guarantees, a reduction of the liquid resources available at time T and T+1, that are the resources available to ENXC to meet liquidity needs mainly due to withdrawals that the CCP has to perform in the settlement system in lieu of the defaulter..

The liquidity simulation has been run hypothesizing the following three scenarios affecting the liquidity needs for withdrawal:

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[12] ENXC has defined two caps, that are a maximum percentage of NCB usable as collateral accepted to cover margin and default fund requests. These two caps will be enforced whenever the liquidity profile of ENXC requires. From run simulations on Dutch and Belgian participants allowed to post up to 50% of their margin request and 100% of Default Fund Contributions using NCB guarantees, it shown that the impact on LCR is negligible. Therefore, the two caps will initially be set at those levels. Explanation on the cap of 50% on the usage of NCB to cover margin request with 3 examples:

Case 1: the CM can cover 50% of the margin request with cash and 50% with NCB guarantees

Case 2: the CM can cover 50% of the margin request with NCB guarantees and 50% with securities

Case 3: the CM can cover 30% of the margin request with cash, 20% with NCB guarantees and 50% with securities

1. The first two most exposed participants that are supposed to be in default are Dutch/Belgian CMs. Their NCB guarantees can be liquidated.
2. One of the two most exposed participants that are supposed to be in default is a Dutch/Belgian. Only the NCB guarantees of the one defaulting member can be liquidated.
3. No one of the two most exposed CMs that are supposed to be in default are Dutch/Belgian (NCB guarantees cannot be liquidated). The NCB guarantees covering the margins cannot be liquidated.

Table 1 – Actual Liquidity level observed in production at 01-07-2020

Group	Description	Exposure
gcm1	gcm1	26,335,408,819
gcm2	gcm2	13,306,846,953

	01/07/2020
Liq.Need for with.	-39,625,416,622.27
On-going Liq. Needs	-159,047,051.35
CloPosOpt	0.00
CloPosFut	0.00
CloDefMbrPos	0.00
TOTAL NEEDS	**-39,784,463,673.62**
AvaCashNoExCash	9,613,790,915.82
Return leg inv.repos	
SecInPfl	5,710,779,111.66
CommCreLines	50,000,000.00
SecAsMarNoExColl	1,176,686,030.71
CbeValue	28,936,910,527.99
TOTAL ASSETS	**45,488,166,586.17**
Liquidity Coverage Ratio	**114.34%**

In order to provide clarity on the different items composing the LCR, an explanation of the different items is given below:

- *Liquidity needs for withdrawal: Amount of cash that ENXC has to deposit in the settlement system in order to withdraw defaulter's securities. Amount of cash used is generated by the delta between cash received from the counterparty in bonis and securities prices on the market.*
- *Ongoing liquidity needs: Amount of liquidity that ENXC uses in order to meet ongoing liquidity needs. It is determined by calculating the net values of: CMs' margins return, credit or debit cash calls for each CMs , amount of cash on settlement system to facilitate the liquidation process, credit or debit cash calls with LCH SA and variation on Default Fund contributions.*
- *Close positions Options and Futures: Value of two most exposed Banking Group's derivatives positions for which the default is assumed. It is calculated with stressed prices.*
- *Close default member positions: Value of two most exposed Banking Group's cash equity and bond positions for which the default is assumed. It is calculated with stressed prices.*
- *Av. Cash No Exc. Cash: Calculated as the sum of total needs and total assets of day in T-1.*

- *Return leg inv.repos: This is the far leg of a repo transaction. Therefore, it can be cash in case of a reverse repo transaction, or securities in case of a repo.*
- *Sec. In Portfolio: Amount of securities in portfolio owned by ENXC and held for investments. Determined according to stressed prices and applying Central Bank haircuts.*
- *Comm. Cre. Lines: Amount of credit lines from Italian Central Bank to ENXC in case of necessity.*
- *Sec. As Mar. No Exc. Collateral: Value of securities deposited as collateral from CMs to cover margins requests.*
- *CbeValue: Central Bank cash for withdrawal*

Table 2 - Simulated Liquidity after migration at 01-07-2020. The two defaulters are not Dutch/Belgian (**worst case**) and NCB guarantees are used to cover margins (cap 50%) and Default Fund (no-cap)

Group	Description	Exposure
gcm1	gcm1	-32,218,789,845
gcm2	gcm2	-16,279,622,178

	01/07/2020
Liq.Need for with.	-48,498,412,022.92
On-going Liq. Needs	-159,047,051.35
Clo.Pos.Options	-
Clo.Pos.Futures	-
Clo.Def. Memb.Pos	-
TOTAL NEEDS	**-48,657,459,074.27**
AvaCashNoExCash	13,219,628,904.01
Return leg inv.repos	
CommCreLines	50,000,000.00
SecAsMarNoExColl	6,699,556,489
Guarantees by NCB of Belgium/Dutch	Theoric Value 1630691002.6
CbeValue	34,647,689,639.64
TOTAL ASSETS	**54,616,875,032.21**
Liquidity Coverage Ratio	**112.25%**

Table 3 - Simulated Liquidity after migration at 01-07-2020. Only one defaulter is Dutch/Belgian (**moderate case**) and NCB guarantees are used to cover margins (cap 50%) and Default Fund (no-cap)

Group	Description	Exposure
gcm1	gcm1	-32,218,789,845
gcm2	gcm2	-16,279,622,178

	01/07/2020
Liq.Need for with.	-48,498,412,022.92
On-going Liq. Needs	-159,047,051.35
Clo.Pos.Options	-
Clo.Pos.Futures	-
Clo.Def. Memb.Pos	-
TOTAL NEEDS	**-48,657,459,074.27**
AvaCashNoExCash	13,531,146,680.33
Return leg inv.repos	
CommCreLines	50,000,000.00
SecAsMarNoExColl	6,699,556,489
Guarantees by NCB of Belgium/Dutch	Theoric Value 1319173226.2
CbeValue	34,647,689,639.64
TOTAL ASSETS	**54,928,392,808.53**
Liquidity Coverage Ratio	**112.89%**

Table 4 - Simulated Liquidity after migration at 01-07-2020. Both defaulters are Dutch/Belgian (**best case**) and NCB guarantees are used to cover margins (cap 50%) and Default Fund (no-cap)

Group	Description	Exposure
gcm1	gcm1	-32,218,789,845
gcm2	gcm2	-16,279,622,178

	01/07/2020
Liq.Need for with.	-48,498,412,022.92
On-going Liq. Needs	-159,047,051.35
Clo.Pos.Options	-
Clo.Pos.Futures	-
Clo.Def. Memb.Pos	-
TOTAL NEEDS	**-48,657,459,074.27**
AvaCashNoExCash	13,913,643,121.74
Return leg inv.repos	
CommCreLines	50,000,000.00
SecAsMarNoExColl	6,699,556,489
Guarantees by NCB of Belgium/Dutch	Theoric Value 1223018251.9
CbeValue	34,647,689,639.64
TOTAL ASSETS	**55,310,889,249.94**
Liquidity Coverage Ratio	**113.67%**

As shown from the tables above, we can see that even on the worst observed day in terms of LCR level (i.e. 01/07/2020), the LCR would remain above the hard limit of 110% even after the introduction of NCB guarantees used to cover margins (cap 50%) and Default Fund (no-cap).

Therefore, we can conclude that the acceptance of NCB guarantees by Dutch and Belgian CMs, to cover for their margin requests (cap at 50%) and default fund contributions (cap at 100%), does not materially increase the liquidity risk of ENXC.

The present analysis will be subject to revision and might be reviewed after the cash migration of Euronext cash markets to Euronext Clearing in November 2023, when more and more detailed data on liquidity exposure and collateral usage will be available. The resulting level of caps on NCB utilization for Dutch and Belgian CMs may change accordingly. NCAs will be promptly notified of any changes.

2.4 New Haircuts

Since new non-EUR currencies, as well as securities denominated in EUR (issued by two new countries such as Sweden and Denmark) and non-EUR (specifically NOK), will be introduced in the scope of acceptable collateral, there is the need to introduce new haircuts:

- New haircut on EUR/GBP exchange rate
- New haircuts for the Swedish, Danish and Norwegian (including EUR/NOK FX markdown) sovereign curve

As already anticipated in paragraph 2.2, the logic and methodology for calculating and applying haircuts to collateral are unchanged

3. Internal Governance Approval

On the basis of the methodological analysis provided, on ddmmyyyy, the Members of the Risk Committee issued a first satisfactory non-binding opinion on the amendments related to the collateral management framework. The enhancements presented in the present document, together with the non-binding opinion of ENXC's Risk Committee, were reported to the Board of Directors of ENXC of ddmmyyyy.

The collateral management framework is detailed in the collateral management policy. A new version of the collateral management policy has been approved by the Board of Directors of ENXC on ddmmyyyy and can be found annexed to the present document.

ENXC roles and responsibilities in relation to collateral management framework are detailed below:

- Whenever required, the CEO, supported by the Internal Risk Committee, approves the methodologies adopted to estimate the value of the collateral and haircuts applied to all the securities accepted as collateral.

- The Internal Risk Committee is responsible to monthly review collateral haircut parameters and collateral statistics. Risk management team, at least annually, monitors collateral Wrong-Way Risk multipliers, eligible collateral assessment, collateral haircut policy assessment and collateral concentration limits assessment.

- Internal Audit monitors the effectiveness of the procedure as well as the adequateness of methodologies adopted for haircut and concentration limits definition.

Policies and procedures on collateral had to be reviewed at least annually, or whenever a material change that affects the CCP's risk exposure occurs.

Here below are summarized the roles and responsibilities of ENXC with respect to collateral management:

ACTIVITY	RISK	OWNERSHIP	FREQUENCY	INVOLVED PARTIES
Collateral Haircut review	Market	Risk Management	At least Monthly	Internal Risk Committee
Collateral Statistics	Market	Risk Management	At least Monthly	Internal Risk Committee
Collateral Wrong - Way Risk multiplier	Wrong - Way	Risk Management	At least Annually	Internal Risk Committee
Eligible Collateral Assessment	Market	Risk Management	At least Annually	Internal Risk Committee
Collateral Haircut Policy Assessment	Market	Risk Management	At least Annually	Internal Risk Committee
Collateral Concentration Limits Assessment	Concentration	Risk Management	At least Annually	Internal Risk Committee

4. Comprehensive Risk Assessment

4.1 Operational Risks and Systems and Processes

The Collateral Management System is a critical component of the Clearing System that ensures that counterparties have sufficient collateral to cover their obligations related to margin requirements and default fund. As part of the central clearing system the system is designed to operate continuously, even in the event of unexpected events such as natural disasters, power outages, or other disruptions. In particular the system implements full redundancy at hardware and networking level, leveraging the existing and consolidated "Business Continuity" infrastructures and processes of the CCP. This cover the following points:

- Geographically segregated Primary and Secondary sites;
- Data backup and preservation ;
- Tools to enable manual exception management and manual data load via files;
- Collateral balances account balances end-of day reconciliation.

Please find below the main operational risks identified in relation to Collateral Management – Phase 2 Go-Live:

Operational Risks		***Mitigants***
Business Disruption and System Failures	Any system outage or hardware failure can disrupt the collateral management process.	Implemented EMIR requirements in terms of "time to restore operational capability" and "data preservation time horizon".
Inadequate Data Quality	The inaccuracy and incompleteness of data used in the collateral management system can have critical impact on its effectiveness.	Implemented data quality checks, possibility to perform manual exception handling, end of day reconciliation of account balances and real time monitoring and alerting.
Process/ workflow execution	The risk that IT processes or manual work-arounds are inadequate to support the volume or complexity of	Manual interactions have been reduced to the sole management of business exceptions. In particular, the collateral management process has been enhanced via a Straight-Through processing (STP) approach - directly managed by clearing members though "Clearcut" (Euronext Clearing Workstation).

	business operations concerning Collateral Management.	In addition, an Application to application (A2A) link with collateral custodians and National Central Banks (Belgian and Dutch) which allows automatic feed of information about collateral transactions leads to an efficient monitoring of collateral activity. Finally, Operations staff has been duly increased during the Clearing Migration Programme also in view of the management of the new processes.
Late refund of currencies other than €-euro due to Investment Counterparties	The risk that Euronext Clearing Triparty Repo Counterparties (Cash receiver) failed in refunding back at expiry date cash collateral in currencies other than €-euro	In order to secure the cash collected in currencies other than €-euro, the CCP will ensure compliance with EMIR article 47 (4) and article 45 (2) of the RTS 153/2013, by leveraging on collateralised repo transactions. ENXC will negotiate overnight repo transactions (as a Cash Giver) denominated in GBP and USD currencies in order to be able to promptly refund participants in case of request. In the remote case in which repo counterparties will not be able to refund back on time the underlying amounts at the expiry date, deadlines for restitution requests applicable to Clearing Members have been included in a specific annex in ENXC Instructions (please refer to Art. B.3.3.1ter).

4.2 Compliance

Subject to the governance and regulatory approval processes duly completed, no further specific compliance amendments have been identified in addition to the Rulebook updates with respect to the aforementioned changes in the collateral framework.

Annexes and Support Documentation

Annex 1 - Collateral Management Methodologies and organization

EURONEXT CLEARING