



**ATHEXCLEAR**  
*Clearing House*

**ATHEXCLEAR REPORT ON  
IOSCO FMI PRINCIPLES**

June 2018

*Version: 1.2*



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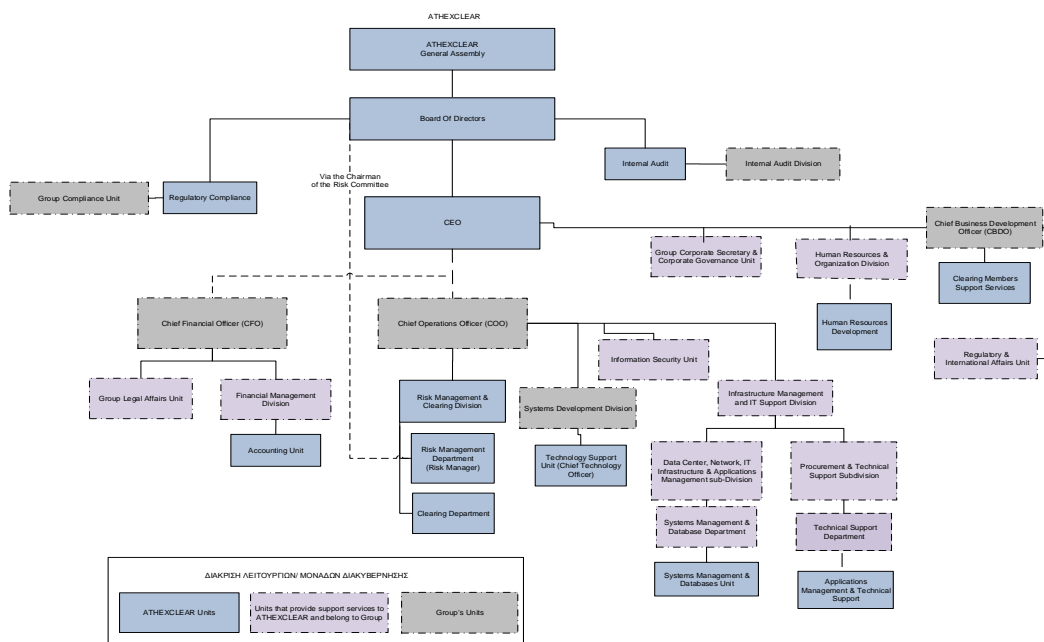
## 1. Introduction

### 1.1 Scope of this document

ATHEXCLEAR is an authorized CCP according EMIR for securities and a number of derivatives products. This document provides information regarding the principles as described in IOSCO document “Principles for Financial Market Infrastructure”.

### 1.2 A brief introduction on ATHEXCLEAR

The ATHEXCLEAR organizational chart is depicted below:



### **1.3 Activities, products and scope**

ATHEXCLEAR performs the following clearing activities:

#### **1. Clearing activities in transferable securities**

Clearing activities with respect to transactions in transferable securities the execution of which takes place on the Securities Markets of the Athens Exchange S.A., related to:

- a. Shares, other equivalent securities and warrants as equity securities, referred to in Annex I, Section C, point (1) of MiFID II
- b. Corporate and government bonds as debt securities, referred to in Annex I, Section C, point (1) of MiFID II
- c. Treasury bills as money market instruments, referred to in Annex I, Section C, point (2) of MiFID II
- d. Exchange trading funds (ETFs) as unit securities, referred to in Annex I, Section C, point (3) of MiFID II, which are negotiable on capital markets

All the aforementioned securities transactions are settled in euro (€).

#### **2. Clearing activities in derivatives**

- a. Clearing activities with respect to transactions in derivatives the execution of which takes place on the Derivatives Markets of ATHEX, related to derivatives, referring to Annex I, Section C, point (4) of MiFID II:
  - i. Futures and options related to indices of equity securities, which are settled in cash
  - ii. Futures and options related to equity securities, which are physically settled

All the aforementioned derivatives transactions are settled in euro (€)

## **1.4 Rules and Board of Directors (BoD) Resolutions**

All the regulatory framework is available in ATHEX site: [www.athexgroup.gr](http://www.athexgroup.gr)

1. Regarding equities clearing the following documentation constitutes the Rules
  - a. ATHEXCLEAR Rulebook for Clearing Derivatives Transactions (RCTD). The latest version can be found in <http://www.athexgroup.gr/web/guest/athexcLEAR-regulations>
  - b. The BoD Resolutions. The related BoD Resolutions can be found in <http://www.athexgroup.gr/web/guest/athexcLEAR-resolutions>
2. Regarding derivatives clearing the following documentation constitutes the Rules :
  - a. ATHEXCLEAR Rulebook for Clearing Transactions in Book-Entry Securities (RCTBES). The latest version can be found in <http://www.athexgroup.gr/web/guest/athexcLEAR-regulations>
  - b. The BoD Resolutions. The related BoD Resolutions can be found in <http://www.athexgroup.gr/web/guest/athexcLEAR-resolutions>

## 2. ATHEXCLEAR disclosure framework

### 2.1 Principle 1 – Legal Basis

#### ***Principle 1: Legal Basis***

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

ATHEXCLEAR has a well-founded, clear, transparent and enforceable legal basis for each aspect of its activities in all relevant jurisdictions.

ATHEXCLEAR is a Societe Anonyme under Greek law. It is a wholly owned (100%) subsidiary of ATHEX. The company was founded in March 2010 and provides clearing services as a separate legal entity since July 2010. Based on the audited yearly reports of 2017 the Share Capital of the Company is € 25.5 million, which is fully paid in, and the Total Equity is € 30.08 million. All company financial statements are published in the website: <http://www.athexgroup.gr/athexclear>.

ATHEXCLEAR's activities are regulated by Regulation 648/2012 (EMIR). To this effect ATHEXCLEAR has received the required licence under EMIR to clear securities and derivatives from the Hellenic Capital Market Commission through Decision 1/704/22.1.2015. Furthermore ATHEXCLEAR's systems are also "designated systems" under Law 2789/2000, implementing Directive 98/26/EC on Settlement Finality, as amended by art. 42 of law 4221/2011 and are included in the list of systems provided by Art. 10, Directive 98/26/EC.

Regarding ATHEXClear's Remote participants eligibility for participation in ATHEXClear's systems, relevant legal opinions from specialised law firms from the remote participants' countries of origin have been provided in order to assess eligibility and legal risk.

## 2.2 Principle 2 - Governance

### **Principle 2: Governance**

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

ATHEXCLEAR has in place governance arrangements that are clear and transparent, promote its safety and efficiency and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

To ensure safety and efficiency of its operations, ATHEXCLEAR offers fully automated services and has in place the appropriate IT systems to ensure availability, integrity and confidentiality for the information and the facilities. Furthermore, ATHEXCLEAR has established a system of internal controls covering all material controls, including financial, operational and compliance controls, as well as the risk management systems.

ATHEXCLEAR is a 100% subsidiary of Athens Exchange Group (ATHEX Group).

ATHEXCLEAR has a clearly documented, robust governance structure including the Board, committees and management. The responsibilities and accountabilities of each unit of ATHEXCLEAR are clearly defined. ATHEXCLEAR has in place a Chief Risk Officer, a Chief Compliance Officer and a Chief Technology Officer whose lines of responsibility are clear, consistent and well-documented. ATHEXCLEAR's organizational structure is described in detail in the Internal Operational Rulebook.

In the context of its corporate responsibility framework, ATHEXCLEAR has established procedures to ensure accountability to its stakeholders. The procedures include -but are not limited to- the disclosure of corporate report/ annual bulletin, posting of business-critical information on the website of the company, the performance of consultations with clearing members in the event of major changes, the overall interaction with stakeholders, the mechanisms for recording and resolving complaints, etc.

Furthermore, accountability to clearing members is achieved by the adoption of complaints management policy and corresponding procedure and system. The complaints procedure describes how a clearing member having a complaint about the performance or the failure to perform any of ATHEXCLEAR obligations or any regulatory requirements can submit this complaint and how ATHEXCLEAR investigates and resolves the complaint.

ATHEXCLEAR discloses to its clearing members and other market participants the following information on its website:

1. governance arrangements (organizational structure, key elements of remuneration policy, key financial information)
2. information regarding rules and procedures (default management procedures, business continuity policy, investment policy, pricing policy, clearing services, risk framework and parameters)

Moreover, ATHEXCLEAR has in place policy and procedures for identifying and managing potential conflicts of interest between clearing members and ATHEXCLEAR including management, employees, outsourcers and the parent company (ATHEX Group).

ATHEXCLEAR is managed by a Board, which is elected by the General Assembly. At least a third, but no less than two of the Board members are independent.

The main responsibility and duty of the Board members is to continuously reinforce the long-term economic value of ATHEXCLEAR and defend the general corporate interest in the context of all relevant statutory and supervisory requirements. The Board is responsible for the preparation and approval of documented business strategy with a minimum time horizon of one year and to set clear operational objectives for the Company.

The Board has a supervisory and executive role. The executive role of the Board relates to its other administrative responsibilities. In the above context, the Board undertakes at least the following functions:

1. setting clear goals and strategies for the central counterparty
2. effective monitoring of senior management executives
3. establishment of appropriate remuneration policies
4. oversight of risk management services
5. supervision of the Compliance Unit and Internal Audit Unit
6. supervision of outsourcing arrangements

7. supervision of compliance with all provisions of Internal Operational Rulebook, Regulation (EU) No 648/2012 (EMIR) and of its Implementing and Technical Standards Regulations and other regulatory and supervisory requirements
8. provision of accountability for shareholders or owners and employees, clearing members and their customers and other relevant stakeholders

The supervisory role is supported by the establishment of the necessary Committees of the Board:

**i) Audit Committee**

It acts as a supervisory committee of the Board mainly to oversee the quality and integrity of accounting and auditing mechanisms, as well as of the financial statements preparation functions. The Audit Committee reports to the Board. It consists of three members, of which at least two are independent members and it is presided by an independent member.

**ii) Risk Committee**

The Risk Committee of ATHEXCLEAR is established and serves as an advisory committee of the Board, in accordance with the provisions of article 28 of Regulation 648/2012 of the European Parliament and Council and in accordance with the specific provisions of the Derivatives Transactions Clearing Regulation of ATHEXCLEAR.

**iii) Default and Crisis Management Committee**

The Default & Crisis Management Committee of ATHEXCLEAR serves as an executive committee of the Board and reports directly to it. The Committee is established upon decision of the Board issued in execution of the Transferable Securities Transactions in Book-entry Form Clearing Regulation and the Derivatives Transactions Clearing Regulation. The above decision determines the decision making and advisory powers of the Committee, its composition and the process of decision making.

**iv) Clearing Fund Assets Management Committee**

The Committee is responsible for managing the assets of the Clearing Fund in accordance with the assets management policy approved by the Group and the Board and in accordance with the provisions of the Rulebook, including placements that may be performed on them, as well as the issuance of decisions for carrying out all required capital movements in case of its activation.

**v) The Executives Appointment, Candidate BoD Members Nomination, and Remuneration Committee (Remuneration Committee)**

It acts as supervisory committee of the Board and consists of three members, at least two of which are independent members, while the committee is presided by one of these independent members. The Executives Appointment, Candidate BoD Members Nomination, and Remuneration Committee reports on ATHEXCLEAR issues to the Board of ATHEXCLEAR as well as to the Board of the parent company of the Group.

**vi) Strategic Investment Committee**

It operates as a committee of the Board of the Group's parent company, which is composed of members of the Board, with the main purpose of defining the investment strategy. The Committee meetings are attended also by the Group's Chief Financial Officer, who has been appointed as manager of the assets of the companies' Group. The Committee reports on corporate issues to the Board of the Company and the Board of the Group's parent company.

**vii) IT Steering Committee**

The IT Steering Committee (SEP) operates as a committee of ATHEX, the Group's parent company, and supervises the investment priorities in Information and Communications Technology (ICT) for the Group.

**viii) Information Security Management Committee**

The Information Security Management Committee operates as a committee of the parent company of ATHEX Group and is responsible for decisions relating to the Protection and Security of the Group's Information Resources. The protection of Information resources is implemented by the Information Security Policy, the individual guidelines (standards) and the specific procedures for implementing the guidelines.

The members of the Board, including independent members, avail sufficiently good reputation and appropriate expertise in financial services, risk management and clearing services. The above eligibility criteria are examined by the competent supervisory authority, in accordance with the applicable legislation.

The arrangements as per which the Board and senior executives operate include procedures to identify, address and manage potential conflicts of interests of the members of the Board and senior management also through the implementation of the relevant provisions of this Internal Operation Rulebook. In particular, the opinion of the Capital Market Commission for "Principals", the "Loyalty Obligation" of the BoD members and the policies of ATHEXCLEAR (Conflict of Interest, Remuneration Policy) relate to, but are not limited to, measures taken by ATHEXCLEAR concerning the management of conflicts of interest of BoD members and senior executives.

The remuneration of the independent and other non-executive members of the Board is not related to the business performance of ATHEXCLEAR. Moreover, the Company has developed a relevant prevention and control mechanism so as to ensure the independence of the remunerations of the independent and other non-executive members of the Board from the business performance of ATHEXCLEAR.

ATHEXCLEAR's senior management has clearly specified roles and responsibilities defined in the Internal Operational Rulebook. The Company has set clear and direct reporting lines between the BoD and senior management to ensure that senior management is accountable for the performance of management. The senior management team has the appropriate experience, skills and integrity necessary to discharge their responsibilities for the daily operations and risk management of ATHEXCLEAR.

ATHEXCLEAR main activity is clearing and risk management. Risk Management is a core function with extended governance requirements.

As described in ATHEXCLEAR Risk Assessment Framework the following participate in the Risk Management Function:

**The Board of Directors**, which bears the ultimate responsibility with respect to the management of the Risk Management Function. The Company's BoD is ultimately liable and accountable for the risk management of the Company. Specifically, the BoD determines, defines and documents the Company's indicated risk tolerance level and risk assumption ability. Furthermore, the BoD and senior management shall ensure that the policies, procedures and controls of the Company comply with the Company's risk tolerance level and risk assumption ability, and examine the method by which the Company identifies, reports, monitors and manages risks.

**The Risk Committee**, which advises and makes proposals to the Board of Directors on Risk Management issues according to the provisions of article 28 of EMIR and the provisions of the RTS. Risk Committee reports directly to the ATHEXCLEAR Board of Directors and advise the Board on issues that do not fall into the daily operations of ATHEXCLEAR relating to:

- any arrangements, which may affect the risk management performed by ATHEXCLEAR as a central counterparty, such as:
  - any significant change in the risk model applied
  - the Clearing Member's default procedures as defined in the Rulebook
  - the criteria for the acceptance of Clearing Members, as defined in the Rulebook
  - the clearing of new instruments categories as specified in the Rulebook, or
  - any outsourcing of ATHEXCLEAR's duties, where applicable
- amendments of the Rulebook relating to issues of the Risk Committee's competence as of the preceding paragraphs.

The competent bodies of ATHEXCLEAR provide the Risk Committee, on a quarterly or extraordinary basis, with the results and an analysis of review and test program, which includes back testing, tolerance tests, sensitivity analysis, reverse tolerance tests, haircut tests and, where applicable, correlation tests, in a manner that does not breach confidentiality, in order to acquire an opinion for the review of risk management models and methodologies

The **Risk Management Department** of the Company's Risk Management & Clearing Directorate, which is sufficiently independent of the other departments of the Company and its main task is the integrated approach to the risks faced by the Company with the objective of recognizing, calculating and managing them. The Risk Management Department has the necessary authority, resources, expertise and access to all relevant information.

The Chief Risk Officer, head of the Risk Management Department, who is accountable to the Board of Directors for risk management issues via the Chair of the Risk Committee and implements the risk management framework, including the policies and procedures, laid down by the BoD.

The Internal Audit Committee participates also in the risk management watching over the proper performance of the internal control systems.

Apart of the risk management function, ATHEXCLEAR internal controls system consists of Compliance Unit and Internal Audit Unit supervised by the BoD.

The following policies are established and are being followed by ATHEXCLEAR:

- Investment Policy
- Internal Audit Policy
- Record Keeping Policy
- Information Security Policy
- Conflict of Interest Policy
- Compliance Framework
- Outsourcing Policy
- Remuneration Policy
- Complaints Management Policy
- Whistleblowing Policy

## 2.3 Principle 3 - Framework for the comprehensive management of risks

### **Principle 3: Framework for the comprehensive management of risks**

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

ATHEXCLEAR has a sound risk management framework for comprehensively managing legal, credit, liquidity, operational and other risks.

ATHEXCLEAR has developed a comprehensive risk management framework for the risks it is exposed to in proportion to the size, nature and complexity of its operations. The overall risk management framework, in conjunction with the other relevant regulations specifying the provisions, define how the Company continuously collects and utilizes any available internal or external information, so that it is able to detect, recognize, classify, analyze, evaluate, measure, assess economic impacts, monitor, control and effectively treat all the risks that exist in every activity and function. ATHEXCLEAR addresses all risks, internal or external, present or future, and especially those recognized as important (material) i.e. those that might jeopardize the company's solvency. **The Risk Management Framework Policy** defines the key risk management principles, the risk tolerance level, the governance regulations and the single risk management process for all risk categories.

The risk management framework, in conjunction with other relevant regulations, set a strong control environment and corresponding risk management skills, which will make the Company's operational units capable of achieving their functional objectives, while aiming at continuous improvement.

ATHEXCLEAR manages its legal risk through monitoring for amendments and interpretative changes to applicable regulations as well as consistent monitoring for ongoing compliance with existing regulations. The compliance, auditing and rules and regulations departments are being involved.

ATHEXCLEAR manages credit risk as described under Principle 4.

ATHEXCLEAR manages liquidity risk as described under Principle 7, in accordance to its **Liquidity Risk Management Policy**.

ATHEXCLEAR manages operational risk as described under Principle 17, in accordance to its **Operational Risk Management Policy**. Operational risk management includes monitoring of ATHEXCLEAR's service providers and planning for business continuity under various scenarios. ATHEXCLEAR had their Business Continuity Management System accredited with ISO22301:2012 for the offered products and services.

ATHEXCLEAR manages systemic risk through several aspects of its risk management framework, including monitoring of Clearing Members' as discussed in greater detail under Principle 4.

ATHEXCLEAR manages collateral risk through a rigorous monitoring of the value, quality and liquidity of assets and is addressed through proper Clearing Members collateral management as discussed in detail under Principle 5.

ATHEXCLEAR addresses investment risk in its investment policy, which incorporates applicable regulations. ATHEXCLEAR's investment policy limits the investment instruments to those with high credit quality, high liquidity and low price volatility. The investment policy is determined by the **Strategic Investment Committee of ATHEXCLEAR** and approved by the Board of Directors, taking into account the provisions of Regulation (EU) no. 648/12 and 153/13. Custody and investment risks are covered under Principle 16.

Settlement risk is mitigated through a clear payment deadlines schedule that is clearly detailed in ATHEXCLEAR Rulebook and BoD Resolutions.

The ATHEXCLEAR Risk Management Department also monitors liquidity counterparties in terms of financial health and ability to fulfill obligations.

The ATHEXCLEAR default management and recovery and wind-down provide for the ongoing provision of clearing services during recovery as well as an orderly process in the event wind-down becomes necessary. Additional information is available under Principle 13 and Principle 15.

## 2.4 Principle 4 – Credit Risk

### **Principle 4: Credit Risk**

An FMI should effectively measure, monitor, and manage its credit exposures to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a Clearing Member that is involved in activities with a more complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure to the Clearing Member in extreme but plausible market conditions. All other Clearing Members should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure to the Clearing Member in extreme but plausible market conditions.

ATHEXCLEAR effectively measures, monitors and manages its credit exposures to Clearing Members and those arising from its payment, clearing and settlement process. ATHEXCLEAR maintains sufficient resources to cover its credit exposure to each Clearing Member fully with a high degree of confidence. In addition, ATHEXCLEAR maintains financial resources sufficient to cover a wide range of potential stress scenarios, including the default of the two Clearing Members that would potentially cause the largest aggregate credit exposure to ATHEXCLEAR in extreme but plausible market conditions.

To mitigate credit risk, ATHEXCLEAR actively monitors credit exposure to Clearing Members. The validation of the risk models of ATHEXCLEAR and their methodologies have been carried out by an independent external consultant, in order to identify and adopt any necessary corrective measures before implementation and to avoid any major conflicts of interest.

An annual validation of the risk model by an independent external consultant is also executed.

Moreover, any substantive revisions or adaptations of models and methodologies shall be subject to proper governance, including, among others, an opinion from the Risk Committee and validation outsourced to independent external consultant prior to implementation.

In its operation as a clearing house, ATHEXCLEAR acts as a Central Counterparty and rigorously controls the risks it assumes. Margins Credit Limits and Default Fund contributions are the main tools to mitigate credit risk.

The Margin requirement is calculated per Clearing Member and Clearing Account.

The margin calculation is done automatically by the clearing system. Trading system provides on-line information regarding new trades.

During the trading session ATHEXCLEAR allocates Credit Limits to Clearing Accounts based on available guarantees and calculated risk. Through the Clearing System, each Clearing Member allocates the Credit Limit of the Clearing Account to Trading Members.

The allocated Trading Limit is consumed during the trading session when a new order is entered or a new transaction is concluded. A new order will only be entered in the order book if the resulting risk is covered by available credit limit. If the trading limit is fully consumed during the trading session, the Clearing Member has to provide additional collateral and allocate the resulting credit limit to the trading members in order for them to continue trading.

Margin Calls to Clearing Members for a Clearing Account are issued when the available guarantees do not cover calculated risk at the end of day calculation. Clearing Member has to provide additional guarantees (cash or other assets) before the start of the next trading session, or even during the session in order to get additional credit limit for order entry and trade execution.

ATHEXCLEAR has also the right to require additional margins intraday in extraordinary situations.

Cash margins in Euro are provided through Target 2 System. ATHEXCLEAR receives cash collateral in Euro through ATHEXCSD Target 2 Ancillary system.

Beside cash, other securities are also eligible collateral (selected Greek stocks).

ATHEXCLEAR maintains the list of eligible collateral based on specific criteria like liquidity and trading activity as described in Principal 5. These securities are pledged in favor of ATHEXCLEAR in ATHEXCSD (Central Depository). The collateral deposited is valued in near-to-real-time (every 5 minutes).

ATHEXCLEAR requires *all Clearing Members to participate in the Default Fund*. ATHEXCLEAR operates two different Default Funds for the two Markets (Securities and Derivatives). The calculation procedure for both Funds is similar. The Default Fund mutualizes losses under extreme but plausible market scenarios. The ATHEXCLEAR Default Funds have been designed to provide adequate funds to cover losses associated with the default of the Clearing Members with the largest aggregate credit exposure (first or second and third) and liquidity requirements (for the first and second Clearing Members) in extreme but plausible market conditions according to EMIR requirements. The Default Fund methodology computes the magnitude of potential losses based on a comprehensive set of stress test scenarios.

The amount of each Clearing Member contribution is the product of a rate (Contribution Rate), as defined by ATHEXCLEAR, times the sum of the average Margin of all Clearing Accounts of the Clearing Member for the calculation period (monthly). Minimum contribution applies depending on the capacity of the Clearing Member, that is 500.000€ for General Clearing Members and 30.000€ for Direct Clearing Members.

The resulting amount of the Default Fund is daily tested according to requirements mentioned above.

Default Fund is recalculated, at least on a, monthly basis and funds are required or returned to the Clearing Members accordingly.

ATHEXCLEAR has the authority to recalculate Default Fund also in an extraordinary basis.

Prior to the use of funds from any non-defaulting member, a specific amount from dedicated ATHEXCLEAR funds ("skin in the game") are used to cover any potential loss. This participation represents ATHEXCLEAR's commitment to ensure that ATHEXCLEAR's economic interest is aligned with the Clearing Members ("skin in the game").

ATHEXCLEAR conducts rigorous stress testing to ensure adequate financial resources. Stress testing allows ATHEXCLEAR to discover any potential weaknesses in the risk methodologies as well as to exercise short-term measures if the tests reveal that any Clearing Members are inadequately collateralized. ATHEXCLEAR tests ad-hoc scenarios along with the pre-defined scenarios to study the impact of marketplace events on the risks faced by ATHEXCLEAR. Stress scenarios are applied to actual positions of clearing accounts that are cleared by ATHEXCLEAR.

The validation methodology applied by ATHEXCLEAR includes the following:

- an evaluation of the conceptual soundness of the models and framework, including developmental supporting evidence
- a review of the ongoing monitoring procedures, including verification of processes and benchmarking
- a review of the parameters and assumptions made in the development of its models, their methodologies and the framework
- a review of the adequacy and appropriateness of the models, their methodologies and framework adopted in respect of the type of contracts they apply to
- a review of the appropriateness of its stress testing scenarios and
- an analysis of the outcomes of testing results

Changes to the ATHEXCLEAR risk management framework are vetted through the ATHEXCLEAR governance process, which includes the ATHEXCLEAR Risk Committee, the ATHEXCLEAR Board and applicable regulators, as discussed under Principle 2.

## 2.5 Principle 5 - Collateral

### **Principle 5: Collateral**

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

ATHEXCLEAR requires collateral with low credit, high liquidity and limited market risks to manage its Clearing Members' credit exposure. ATHEXCLEAR requires and enforces conservative haircuts and concentration limits.

ATHEXCLEAR Risk Parameters document provides the framework for setting the list of eligible collaterals in compliance with EMIR.

Acceptable collaterals are:

- i) cash in EUR
- ii) ATHEX-listed stocks with an average daily traded value greater than a limit set and published by ATHEXCLEAR, that are underlying securities in ATHEX's Derivatives Market Futures or that belong to the FTSE / ATHEX-LARGE CAP or FTSE/ATHEX MID CAP indices with the exception of the share issue of "HELLENIC EXCHANGES - ATHENS STOCK EXCHANGES S.A. HOLDING" that is not eligible.
  - In case of transfer of a security to another index as provided for in the ATHEX Regulation, the transferred security concerned shall cease to be accepted as Collateral
  - In the event of interruption in trading of Futures on the ATHEX as provided for in the ATHEX Regulation, the underlying security concerned shall cease to be accepted as Collateral
- iii) ATHEX-listed units that fall under Exchange Traded Funds (ETF Units) with an average daily traded value greater than a limit set and published by ATHEXCLEAR. This applies solely to positions on products settled in Euros
  - In case of transfer to another category as provided for in the ATHEX Regulation, the transferred security concerned shall cease to be accepted as collateral

The average daily traded value per security (stock or ETF) is examined on a daily base, to check whether it is lower than the limit set by ATHEXCLEAR. In case it is lower, the Security ceases to be accepted as Collateral from the effective date of the new list of eligible collaterals published by ATHEXCLEAR.

Strict concentration limits apply that further ensure the liquidation of collaterals even in stressed periods. Concentration Limit values are determined by ATHEXCLEAR and published on its website:

- i) For stocks and ETFs that are accepted as Collateral, a maximum amount, which is valued to cover the Margin requirement per Clearing Account
- ii) For the purpose of testing the adequacy of the Collateral after the finalization of positions, a percentage of margin requirements per Clearing Account is set which will be covered with cash on a daily basis
- iii) The percentage of the collaterals (haircut values) issued by a banking group over the total collaterals (haircut values) of ATHEXCLEAR is calculated on a daily basis. When this coverage rate exceeds 10%, the Collateral in question shall no longer be deemed acceptable. Collaterals that are committed before implementation of the measure shall continue to be valued, whereas in cases where a large amount of specific Collaterals are provided that do not meet the Margin requirement, ATHEXCLEAR may impose their release, setting the relevant time frame for it.

All the parameters regarding Collaterals, including the list of the eligible collaterals can be found in ATHEXCLEAR website: <http://www.athexgroup.gr/clearing-risk-management>

## 2.6 Principle 6 - Margin

### **Principle 6: Margin**

A Clearing Member should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

ATHEXCLEAR covers its credit exposure to its Clearing members for all products through an effective margin system that is risk-based and regularly reviewed.

Margin requirements for Securities Market:

The margin calculation methodology is based on a general/specific risk model. The margin calculation consists of 3 parts. That is, the General Risk and Specific Risk (Initial Margin) and the Mark to Market (Variation Margin).

The Mark to Market (Variation Margin) is used to revalue open positions at the most recent prices and therefore account for already observed losses, while the General Risk and the Specific Risk (Initial Margin) are used to account for any additional potential losses due to future price changes.

A General Risk factor is assigned only to securities belonging to a correlation group, modeling the effect that the change in price of the securities belonging to a correlation group would have on any particular security. Thus, when applying the general risk factor to calculate the General Risk, bought and sold positions across securities belonging to a correlation group are netted.

On the other hand, a Specific Risk factor is assigned to each security, modeling any price changes that cannot be reliably accounted (including under stressed conditions) to general market moves or change in prices of other securities.

Therefore, no netting will be performed across securities not belonging to a correlation group. In particular for securities not belonging to a correlation group, the General Risk factor will be 0. Thus, bought/sold positions in such securities will not be netted against sold/bought positions on any other securities.

Margin requirements for Derivatives Market:

ATHEXCLEAR calculates the related risk (margin required) with the RI.VA (Risk Valuation) model. The margin is calculated as to cover the loss resulting from closing the total open position of the clearing account under the worst possible scenario with a given confidence level in full compliance with EMIR requirements.

The calculation model takes into account the characteristics of individual products, such as:

- the non-linearity of the valuation
- the dependence of their price from volatility
- the dependence of their price on the time to maturity
- the change in their value over time

When calculating the Margin for derivatives, no offsetting of any sort shall be performed of the Risk between positions in derivatives with a different underlying security. For derivatives with a common underlying security it is recognized, also in line with the Margin calculation model, that the common underlying security shall have the same price for all of the products which have the same underlying security for the different scenarios considered.

The detailed methodology for calculating the margin (initial margin) is described in the document "RIVA Methodology Guide".

Margin Parameters calculation

Parameters used for margin requirement calculation are calibrated in order to follow EMIR requirements. The confidence interval is set at 99.0% and a minimum liquidation period of 2 days is used. The parameters are reviewed and updated regularly on a quarterly basis or on an extraordinary basis. ATHEXCLEAR will also run, on a daily basis, back testing regarding Margin adequacy. At monthly or more frequent intervals a sensitivity analysis is performed on the Margin calculation model.

Methodology for ensuring the stability of margin requirements that limit pro-cyclicality

The time horizon used for the calculation of historical volatility is the past twelve (12) month period as it is indicated by the regulation. In order ATHEXCLEAR to ensure that the data used for calculating historical volatility

capture a full range of market conditions, including periods of stress, and also take into consideration pro-cyclicality the following are also implemented regarding historical volatility.

The margin parameters calculated based on the 12 months historical period are compared with margin parameters calculated for the previous 10 year historical period, in order to ensure that the 12 months period leads to the estimate of stable and prudent margins that limit pro-cyclicality. If the results of the comparison show that the calculated parameters (12 months) lag compared to those that would be calculated based on the previous 10 year historical period, the parameters are adjusted appropriately

For instruments where 10 years of historical data is not available, the parameters are calculated based on the past 12 months (weighted with 75%) and a 12 month period from the last five years (weighted with 25%). The 12 month period used refers to the period with the highest rolling historical volatility of a reference index. In any case the estimated parameters cannot be less than those calculated from the past 12 month period.

## 2.7 Principle 7 – Liquidity Risk

### **Principle 7: Liquidity risk**

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

ATHEXCLEAR measures, monitors, and manages its liquidity requirements and resources according to the approved Liquidity Risk Management Framework to ensure it has sufficient liquid resources to meet intraday and in all relevant currencies all of its payment obligations with a high degree of confidence under a wide range of potential stress scenarios that include, but are not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation in extreme but plausible market conditions.

ATHEXCLEAR has developed and implements a Liquidity Risk Management Policy which describes the liquidity plan, methodology for the identification, quantitative assessment and monitoring of liquidity risk and the calculation of the required liquid resources.

ATHEXCLEAR has in place procedures and instruments to daily manage and monitor its liquidity needs under normal and stress conditions, taking into account the default of the two member groups with the largest exposures.

Liquidity requirements include:

- a) Requirements relating to the activity of ATHEXCLEAR as Clearing Member in the derivatives market and the securities market.
  1. Such requirements are divided into requirements under normal conditions and requirements under conditions of clearing member(s) default. Possible needs for liquidity resulting from the activities of ATHEXCLEAR as Clearing Member for:
    - daily settlement on derivatives market
    - the obligation linked to the settlement of trades on the securities market
    - The obligation associated with physical delivery in the Greek derivatives market.
  2. Under normal conditions, there is no need, neither for the derivatives market nor for the securities market, for liquidity for the purpose of performing daily settlement (cases 1 and 2 above). ATHEXCLEAR first receives from the member the required amounts and pays them to members that are entitled to receive them, without having to use its own funds.
  3. However, due to physical delivery in the Greek derivatives market (case 3 above) there liquidity requirements appear even under normal conditions. For such cases ATHEXCLEAR follows DvP procedure using ATHEXCLEAR account for settling the transaction (first receiving and then delivering securities). Therefore temporary financing of the transaction is required. The minimum liquidity requirement for physical delivery under normal conditions is equal to the value of the largest physical delivery order.
  4. The liquidity required in the event of default of a member is calculated on a daily basis. As part of the program of stress tests, a daily liquidity stress test is performed under predefined scenarios that incorporate historical as well as hypothetical extreme but plausible market conditions. As part of such testing, account is taken of an additional liquidity requirement that may arise from the default of members belonging to the same group as the clearing member. No account is taken of the case of a transfer of an account to another Member, which would reduce the overall exposure. Where a client, who is the beneficiary of a segregated clearing account, fails to perform an obligation, the potential liquidity requirement resulting from such failure to perform by one or more clearing members is also considered.
  5. For both the Securities and the Derivatives Markets a single stress test is performed on liquid financial resources. Account is taken in such testing that the effects of a lack of liquidity cannot be separated for one or the other market. It is also recognized that ATHEXCLEAR's liquid financial resources are the same for both markets. No use is allowed of the Collaterals and the Default Fund of one market to cover liquidity needs in the other one.

b) Requirements under other ATHEXCLEAR financing activities.

1. Such activities include payroll, tax requirements, maintenance costs, etc. The Financial Division of ATHEXCLEAR performs a detailed projection of cash flows that includes the liquidity requirements for the Company's operational needs arising out of the monthly planning cash flows.

In order to manage its liquidity risk, especially in case of a member default, ATHEXCLEAR has a number liquidity sources that enable it to manage and cover this risk:

2. Cash collateral posted by the clearing members. ATHEXCLEAR requires that at least 40% of the collateral of each clearing account must be posted in cash
3. Default Fund which is deposited in cash
4. ATHEXCLEAR own funds in cash
5. Excess cash collateral that is deposited as margin by the Clearing Members and/or their clients.
6. Credit Lines. ATHEXCLEAR have set concentration limits in its liquidity management framework regarding deposits and credit lines. Currently no such arrangement is used although there is such a provision in ATHEXCLEAR Liquidity Framework.

According to its investment policy, ATHEXCLEAR deposits its own cash resources as well as the Default Fund and Members' guarantees **only** in Target 2 (Central Bank money). Only a limited amount of up to 500.000 EUR of ATHEXCLEAR funds is deposited in commercial banks for its daily operating needs.

ATHEXCLEAR does not have Liquidity risk from any other service providers.

## 2.8 Principle 8 – Settlement Finality

### ***Principle 8: Settlement finality***

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

ATHEXCLEAR provides clear and certain final settlement intraday according to a transparent settlement cycles schedule through Target 2.

ATHEXCLEAR uses a direct settlement model to manage daily settlements (see Principle 9). Cash settlement is relevant for the payment of margins as well as trade payments (e.g. fees) and required Default Fund contributions. Pursuant to such legal agreements, settlement fund transfers are irrevocable and unconditional when ATHEXCLEAR's account at the RTGS account in Target 2 is debited or credited.

## 2.9 Principle 9 – Money Settlements

### ***Principle 9: Money settlements***

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimize and strictly control the credit and liquidity risk arising from the use of commercial bank money.

ATHEXCLEAR conducts its money settlements in central bank money in EUR through ATHEXCSD Target 2 ancillary system.

As the result of the Clearing Member activity, ATHEXCLEAR settles the cash obligations in Target 2, following a T+1 settlement cycle for derivatives market and T+2 settlement cycle for Securities Market using procedure 6 of Target 2 ancillary system interface.

Securities Market settlement take place in cycles between 8:00 am and 4:00 pm CET. Derivatives Market settlement take place between 8:00 am and 9:00 am CET.

ATHEXCLEAR guarantees the settlement either by cash settlement (for cash settled products) or Delivery Versus Payment Settlement for physically-settled derivatives products and Securities Market transactions.

## 2.10 Principle 10 – Physical deliveries

### ***Principle 10: Physical deliveries***

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

ATHEXCLEAR conducts physical settlement in accordance to its Rules and Regulations after identifying, monitoring and managing risk associated with such physical deliveries through ATHEXCSD.

ATHEXCLEAR guarantees the settlement either by cash settlement (for cash settled products) or Delivery versus Payment (DvP) Settlement for physically-settled derivatives products and Securities Market transactions.

ATHEXCLEAR instructs the ATHEXCSD to conclude settlement for all cleared transactions for which it has calculated monitors and keeps appropriate margin and Default Fund contributions by the Clearing Members.

In Derivatives Market, physical delivery is applicable for listed stock futures, stock options and stock borrowing. Sellers and buyers obligations regarding underlying securities and cash are clearly defined and communicated through an automated process to the Clearing Members to inform all relevant parties. For all physical deliveries, delivery risk is calculated and included in the required margins with appropriate risk methodology and risk parameters.

## 2.11 Principle 11 – Central securities depositories

***Principle 11: Central securities depositories***

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimize and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialized form for their transfer by book entry.

ATHEXCLEAR does not perform the function of a CSD.

All CSD related functions are performed by ATHEXCSD, a separate S.A. company. ATHEXCLEAR does not have any stake in the ATHEXCSD. The reverse also applies.

## 2.12 Principle 12 - Exchange-of-value settlement systems

### ***Principle 12: Exchange-of-value settlement systems***

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

All payments conducted by ATHEXCLEAR do not involve two linked obligations.

The DvP method is always employed.

## 2.13 Principle 13 - Participant-default rules and procedures

### **Principle 13: Participant-default rules and procedures**

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

ATHEXCLEAR has effective and clearly defined rules and procedures designed to manage a Clearing Member default. ATHEXCLEAR's rules and procedures are designed to ensure that it can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

The ATHEXCLEAR Rulebooks define the circumstances for declaration of a Clearing Member default, including a Clearing Member's failure to meet payment obligations to ATHEXCLEAR and its rules and procedures provide for the management of such a default. As each financial emergency or default is unique, the rules and procedures provide ATHEXCLEAR with a certain level of authority and flexibility in how to best implement the default procedures.

ATHEXCLEAR has set up and operates two different Default Funds for the two Markets (Securities and Derivatives), however, the calculation procedure is similar (see also Principle 6).

Regarding the management of a default situation

- SECTION IV of ATHEXCLEAR Rulebook for Clearing Derivatives Transactions (RCDT) and
- SECTION IV of ATHEXCLEAR Rulebook for Clearing Transactions in Book-Entry Securities (RCTBES)

establish the procedures that shall be followed in case of default of a Clearing Member.

In case of Clearing Member's default, Risk Crisis Management Committee is responsible to manage the default and keep all the relevant authorities, market operator, and the Clearing Members informed.

Generic actions include:

- a) declaring a Clearing Member in default
- b) communicating the default
- c) activating the relevant Trading Member that will support the close of the position
- d) conducting hedging and portfolio liquidation

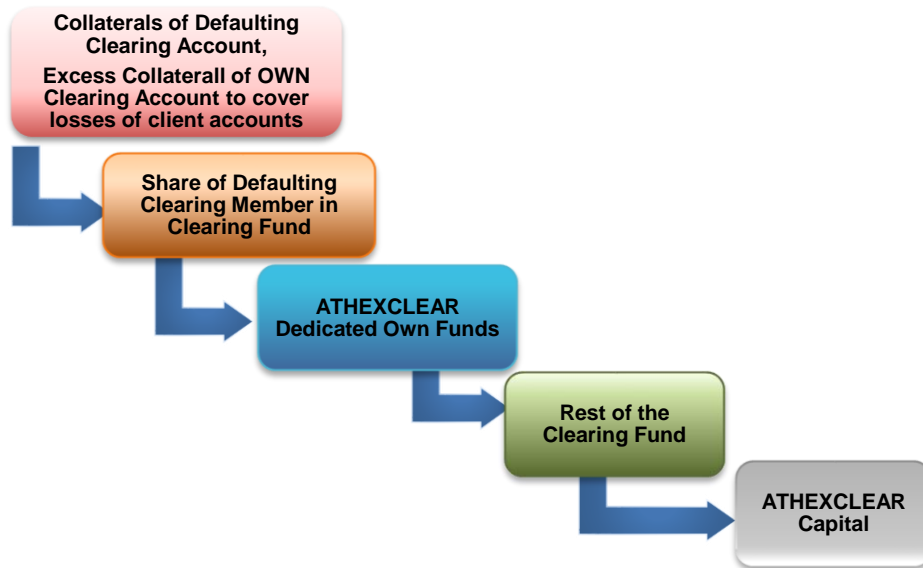
The Rulebooks in Section IV details :

- the causes of default (par. 1.1.)
- the management of the default (Part 2) and specifically
- ATHEXCLEAR rights (par 2.2)
- the coverage transactions that shall be made by ATHEXCLEAR (par. 2.3)
- the option for close-out netting against the defaulting member (par. 2.4)
- the loss calculation and coverage method (par. 2.5)
- the use of collaterals (par. 2.6) and
- the transfer or closing procedure of segregated client accounts pursuant to Article 48 of Regulation (EU) No 648/2012 (par. 2.7)

ATHEXCLEAR shall cover loss per Clearing Account as follows (**Default waterfall**):

- a) The loss results in relation to the defaulting Clearing Account shall be covered by collateral provided in favor of ATHEXCLEAR for the relevant Clearing Account
- b) If the default regards a Clients Clearing Account or a Client Clearing Account and the collateral of the relevant Clearing Account does not suffice to cover the loss under (a), ATHEXCLEAR shall use any remaining collateral of the Own Clearing Account after closing the position of the Own Clearing Account
- c) If the collateral under (a) and (b) are insufficient, ATHEXCLEAR shall for the purposes of covering the remaining portion of the loss, use the contribution of the defaulting Clearing Member to the Default Fund
- d) If the contribution under (c) is insufficient, ATHEXCLEAR shall for the purpose of covering the remaining portion of the loss, use its Dedicated Own Funds (Skin In the Game)

- e) If the Dedicated ATHEXCLEAR Own Funds under (d) are not sufficient, the remaining portion of the loss shall be covered by the Contributions of other members in the Default Fund pro rata the percentage of participation in Default Fund prior to its activation for the coverage of the particular loss;
- f) Any portion of the loss remaining under (e) above shall be covered by other financial resources of ATHEXCLEAR.



## 2.14 Principle 14 - Segregation and portability

### **Principle 14: Segregation and portability**

A Clearing Member should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the Clearing Member with respect to those positions.

ATHEXCLEAR maintains rules and procedures that enable the segregation and portability of positions of a Clearing Member customers and the collateral provided to ATHEXCLEAR with respect to those positions.

ATHEXCLEAR publicly discloses the levels of protection and the costs that are connected to the different levels of segregation which it provides for clearing purposes per System as provided for under Article 39(7) of Regulation (EU) No 648/2012 and in particular in accordance with the provisions of the Rulebook of System operation "Rulebook for Clearing of Transactions in Transferable Securities in Book Entry Form" and the Rulebook of System operation "Rulebook for Clearing of Transactions in Derivatives". (<http://www.athexgroup.gr/regulated-publication>)

Clearing is performed by ATHEXCLEAR through the Clearing Accounts. The Clearing Accounts are opened by ATHEXCLEAR following an application of the Clearing Member and on the condition that all documentation required under the provisions of Rulebook are submitted to ATHEXCLEAR. The following Clearing Accounts shall be held by each Clearing Member in each case for the purpose of complying with Article 39(7) of Regulation (EU) No 648/2012:

#### **1) Own Clearing Account**

The account held by a Clearing Member in their name in ATHEXCLEAR to clear their own transactions in accordance with the terms of the Regulations. Pursuant to Article 39 of Regulation (EU) No 648/2012 an Own Clearing Account shall be kept for the purpose of segregating the assets and positions held by the Clearing Member in their own name and for their own account.

#### **2) Clients Clearing Account**

- I. **Direct Client Clearing Account:** The account held by a Clearing Member in ATHEXCLEAR for and on behalf of their clients to clear the transactions of such clients in accordance with the terms of the Rulebooks. Pursuant to Article 39(2) of Regulation (EU) No 648/2012 a Clients Clearing Account shall be kept for the purpose of keeping segregated in a commingled manner the assets and positions of the clients of the Clearing Member (omnibus client segregation).
- II. **Indirect Client Clearing Account:** This is the account kept by a Clearing Member at ATHEXCLEAR for clearing the transactions of the clients of its Clients (indirect clients), where Clients are investment firms or credit institutions, in accordance with Commission Delegated Regulation (EU) 2017/2154. The Indirect Client Clearing Account is kept pursuant to paragraph 2, article 39 of Regulation (EU) No 648/2012 and the specific provisions of Commission Delegated Regulation (EU) 2017/2154 to enable the Clearing Member to collectively distinguish the assets and positions of the clients of its Clients (omnibus indirect client segregation).

#### **3) Client Clearing Account**

The account held by a Clearing Member in the name of a Client in ATHEXCLEAR to clear their Client's transactions in accordance with the terms hereof. Pursuant to Article 39(3) of Regulation (EU) No 648/2012 a Client Clearing Account shall be kept for the purpose of segregating the assets and positions per such Client (individual client segregation).

Clearing is performed by ATHEXCLEAR per Clearing Account. The risk and the obligations related to the provision of collateral in discharge of Margin requirements of ATHEXCLEAR, including the credit limit provision, are calculated per Clearing Account. The collaterals in any kind that are provided in relation to a Clearing Account are kept in a segregated manner in accordance with the records of ATHEXCLEAR and are used exclusively and solely in discharge of the obligations related to the relevant Clearing Account. By exception and in accordance with the terms of the Rulebooks, ATHEXCLEAR may use the collateral of the Own Clearing Account of the Clearing Member to cover a loss resulting from a Clients Clearing Account or a Client Clearing Account on the condition that such collateral is in excess of ATHEXCLEAR's requirements related to the Own Clearing Account of that Clearing Member. Without prejudice to the provisions of the previous point, a potential loss that may occur as a result of a default is debiting only the relevant Clearing Account and the collaterals provided in relation to it. In this

respect, all other Clearing Accounts of the Clearing Member, including the collaterals provided in relation to them, are not affected from the default and the relevant loss.

According to ATHEXCLEAR Rulebook (Section IV, Par. 2.7), ATHEXClear may substitute a Clearing Member by another Clearing Member, in terms of the responsibility for the management of the Clientele Clearing Accounts or the Client Clearing Accounts of the defaulting Clearing Member, including the transfer of the respective collateral, pursuant to Article 48 of Regulation (EU) No 648/2012, in accordance with the specific terms below.

Substitute Clearing Member shall be deemed to be any such Clearing Member who shall undertake the obligations of the respective Clearing Account if it has entered into a contractual agreement as follows: for the Clientele Clearing Customer, with clients of the defaulting Clearing Member and, for the Client Clearing Account, with the Client. Such agreement must have been stated to ATHEXClear pursuant to such procedures as have been established by the latter not later than on the same day of the default by such time limit as ATHEXClear has set for that purpose. Where ATHEXClear has not promptly received such declaration, it shall proceed to close the positions of the defaulting Clearing Member and, in general, to exercise its rights against such member to handle the default without implementing the substitution terms.

The above set of clearing accounts and ATHEXCLEAR's clearing arrangements are fully in line with respect to the legal framework as specified by EMIR regarding the segregation and portability of client positions and assets (collateral) in the event of a Clearing Member's default.

## 2.15 Principle 15 - General business risk

### **Principle 15: General business risk**

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

ATHEXCLEAR identifies monitors and manages its general business risks and holds sufficient liquid net assets, funded by its equity, to cover general business losses so that it can continue operations and services as a going concern in the unlikely case that such losses materialize. Furthermore, these liquid net assets are at all times sufficient to ensure a recovery or orderly wind-down of critical operations and services.

ATHEXCLEAR according EMIR requirements has a detailed methodology for calculating its' capital requirements, with regards to credit risk, counterparty risk and market risk, termination risk, operational risk and business risk.

ATHEXCLEAR calculate the capital charge for *operational - including legal - risks using the basic indicator approach*. The average of Gross Operating Income for the past three (3) years is taken, under the Basic Indicator approach, to represent the capital requirements against operational risk. The last three twelve-month observations at the end of the accounting period form the basis for computing the three-year average. The net interest income and net non-interest income are summed, and the result is averaged over the three years to obtain the relevant indicator.

Provisions and operating expenses are deducted after the indicator has been calculated. Fees for services outsourced to undertakings not included among the Company's parent company and subsidiaries, nor among the subsidiaries of an undertaking of which ATHEXCLEAR is a subsidiary, are included in operating expenses. Where service outsourcing costs are paid to undertakings subject to supervision within the meaning hereof (EMIR Regulation), such costs may be reduce the relevant indicator.

Calculating the relevant indicator does not involve the items listed next:

- income from extraordinary or irregular items
- income derived from insurance.

In calculating the three-year average, no account will be taken of the sum of net interest income and net non-interest income where it has a negative or zero value. The result of dividing the sum of positive results by the number of such results will give the relevant indicator.

A 15% is applied to such so calculated relevant indicator in order to obtain the capital requirement for operational risk.

ATHEXCLEAR's gross operating expenses for the last reference year serve as the basis for determining capital requirement against winding-down risk.

The annual gross operating expenses corresponding to a half-year period are used in computing the capital charge

ATHEXCLEAR's gross operating expenses serve as the basis for determining capital requirement against business risk.

On the annual gross operating expenses a supervisory factor of 25% is used as calculation factor.

## 2.16 Principle 16 - Custody and investment risks

### ***Principle 16: Custody and investment risks***

An FMI should safeguard its own and its participants' assets and minimize the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

ATHEXCLEAR safeguards both its own and its Clearing Members' assets to minimize the risk of loss on and delay in access to these assets. ATHEXCLEAR investments are in instruments with minimal credit, market and liquidity risks.

The investment policy is determined by the Strategic Investment Committee of ATHEXCLEAR and approved by the Board of Directors, taking into account the provisions of Regulation (EU) no. 648/12 and 153/13.

ATHEXCLEAR investment policy applies to the investments of the following funds:

- ATHEXClear own funds
- Cash of the Default Funds of both the Derivatives Market and the Securities Market, as well as members' guarantees

ATHEXCLEAR deposits all above funds only in cash in EUR and strictly at the Target 2 RTGS account with Bank of Greece (Central Bank) with the following exceptions:

- The execution of transactions for hedging, coverage of obligations, or closing position during a member default management process.
- The deposit in current accounts in Greek banks, of a total sum up to 500,000 EUR, for ATHEXCLEAR daily operation.

## 2.17 Principle 17 – Operational risk

### **Principle 17: Operational risk**

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfillment of the FMI's obligations, including in the event of a wide-scale or major disruption.

ATHEXCLEAR identifies plausible sources of operational risk, both internal and external, and mitigates their impact through the use of appropriate systems, policies, procedures and controls. ATHEXCLEAR's systems are designed to ensure a high degree of security and operational reliability and have adequate, scalable capacity. ATHEXCLEAR's business continuity management aims for the timely recovery of operations and the fulfillment of ATHEXCLEAR's obligations, including in the event of a wide-scale or major disruption.

The Operational Risk Management Framework of ATHEXCLEAR defines its operational risk appetite, the principles and processes for managing operational risk, as well as the roles and responsibilities assigned. It also analyses the risk identification/assessment, mitigation and monitoring processes. The main axes of the framework are the risk and control self-assessment (RCSA) process, the collection of facts on operating losses, the development of action plans and the creation of key risk indicators (KRI).

Through the Operational Risk Management Framework, ATHEXCLEAR:

- ensures that operational risks are managed consistently and effectively across its range of activities;
- develops a single 'culture' in matters related to operational risk management at all levels of the organization;
- adopts appropriate methodologies to measure and estimate the level of the Company's exposure to operational risk;
- constantly complies with the regulatory framework.

The Framework is developed by the Risk Management Department, approved by the Risk Committee and reviewed annually.

A key feature of the sound operational risk management applied by ATHEXCLEAR is managing risks across the range of its activities. Operational risk is the responsibility of all company executives and staff members (risk ownership). The key players in the management of operational risk are:

- ATHEXCLEAR Board of Directors
- Risk Committee
- ATHEXCLEAR Risk Management Unit
- Operational Risk Manager
- ATHEXCLEAR operational units
- Operational risk contacts
- Support Units (IT, Human Resources, Financial Management, Regulatory Compliance, Legal Services, etc.)
- Internal Audit

ATHEXCLEAR has developed an appropriate organizational structure with clear roles and responsibilities in operational risk management for all stakeholders, as described in paragraph 1.1above.

ATHEXCLEAR has established formal controls for all internal procedures covering all functions performed. All clearing and settlement procedures are fully automated.

ATHEXCLEAR reviews, monitors and tests the information security systems regularly. In addition, the IT team tests relevant systems to ensure reliability and adequate scalable capacity. External auditors run IT audit and system penetration tests.

ATHEXCLEAR has a comprehensive business continuity and disaster recovery program that supports the continued performance of all critical functions in the event that ATHEXCLEAR's primary data center are unavailable due to significant business interruption.

There is a formal business continuity and recovery plan in place, tested in ordinary periods during the year. The business continuity/disaster recovery program has as objectives to:

- ensure continuity and recovery of critical functions through its secondary/disaster recovery facility

- minimize the disruption to clients and business partners
- protect the firm's books and records
- reduce the number and frequency of ad hoc decisions following a significant business interruption
- educate employees about contingency plans and roles and responsibilities in executing the plans and
- comply with all regulatory requirements

ATHEXCLEAR has detailed Business Continuity Procedures (BCP), has a Disaster Recovery (DR) site with the capability to host adequate personnel to perform key operations for the period of time required to recover the main building and data centers from a disastrous event. Testing activities are taking place in order to ensure that all systems in the DR site and Business Continuity Procedures are operating smoothly. ATHEXCLEAR, along with the whole of the ATHEXGroup, performs annually a BC test, including the use of the DR site, with full users participation. ATHEXCLEAR has its Business Continuity Management System accredited with ISO22301:2012 for the offered products and services.

Recovery Point Objective (RPO) is close to zero and Recovery Time Objective (RTO) is 2 hours regarding critical functions of ATHEXCLEAR.

With respect to critical functions, ATHEXCLEAR has established a recovery strategy which at a high level can be summarized as follows:

- Continuous replication of the data from the Primary to the DR site
- Virtual Infrastructure that allows for automatic recovery from primary to DR site
- High speed, fault tolerant telecommunication lines (multiple of 1Gbps) from different vendors to connect Primary and DR site
- Remote Administration (Remote Hands) of the DR site from a third site of ATHEXGroup in Thessalonica (which is about 600Km away from our main premises), in order to eliminate the recovery time of DR site below two (2) hours in total.

Apart of the business continuity and disaster recovery program, other measures taken in order to mitigate operational risk are:

- the set-up of insurance arrangements (conclusion of insurance agreements covering various risks) in order to transfer to insurance companies the risk that ATHEXCLEAR does not wish to bear and
- the establishment of compliance function having the task of protecting ATHEXCLEAR against regulatory and legal risk

## 2.18 Principle 18 - Access and participation requirements

### ***Principle 18: Access and participation requirements***

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

ATHEXCLEAR has in place objective, risk-based and publicly disclosed criteria for participation, which permits fair and open access.

The membership requirements of ATHEXCLEAR are publicly disclosed in its Rulebooks and are designed to permit fair and open access, while protecting ATHEXCLEAR and its Clearing Members. The membership requirements are the same for all applicants and include fitness criteria, financial standards, operational standards and appropriate registration qualifications with applicable regulatory authorities. ATHEXCLEAR conducts on-going monitoring of Clearing Members to ensure that they meet the required criteria.

According to ATHEXCLEAR Rulebook for Clearing Derivatives Transactions and ATHEXCLEAR Rulebook for Clearing Transactions in Book-Entry Securities, Clearing Members can be either *Direct Clearing Members* or *General Clearing Members*. Direct Clearing Members shall mean those Clearing Members who are entitled to clear only the transactions that they themselves complete as Market Members. Direct Clearing Members shall not be entitled to undertake clearing transactions completed by other Market Members. General Clearing Members shall mean those Clearing Members who are entitled to clear transactions completed by other Market Members.

Market Members that do not have Clearing Member capacity (Non-Clearing Members) shall not be entitled to participate in the clearing of transactions. Each Non-Clearing Member shall, for the clearing of the transactions it completes, have appointed at least one General Clearing Member.

An applicant for clearing membership, at the time of admission and on an ongoing basis:

- Must be a credit institution or an undertaking providing investment services as defined in Law 3606/2007 and Directive 2004/39/EC of the European Parliament and the Council
- Must act having their registered seat or establishment (branch) in Greece or remotely
- Must meet the requirements pertaining to its operation pursuant to its governing law, the stipulations that are applicable to it and to ATHEXCLEAR Rulebook
- Must hold a permit for the safekeeping and administration of financial instruments for the account of clients as defined in Law 3606/2007 and Directive 2004/39/EC
- To obtain Direct Clearing Member capacity, the candidate must have previously obtained the Market Member capacity under the rules governing the functioning of the relevant Market
- Clearing members that clear transactions on behalf of their clients shall have the necessary additional financial resources and operational capacity to perform this activity. In this context, they must gather from their clients all relevant basic information provided to them in relation to clearing operations hereunder to identify, monitor and manage relevant concentrations of risk relating to the provision of services to clients

## 2.19 Principle 19 - Tiered participation arrangements

### ***Principle 19: Tiered participation arrangements***

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

ATHEXCLEAR does not have tiered participation arrangements.

ATHEXCLEAR has legally binding agreements with its Clearing Members. However, it does not enter into legal agreements with Clearing Members' underlying clients.

Although ATHEXCLEAR does not have a legal relationship with the underlying clients of a Clearing Member, ATHEXCLEAR collects and maintains certain underlying client information and data that is required to conduct its risk management processes and to provide for segregation under the EMIR provisions.

## 2.20 Principle 20 – FMI links

***Principle 20: FMI links***

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

ATHEXCLEAR does not offer or has entered into inter-operability links with other Clearing Members and therefore, Principle 20 is not applicable.

## 2.21 Principle 21 – Efficiency and effectiveness

### ***Principle 21: Efficiency and effectiveness***

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

ATHEXCLEAR is efficient and effective in meeting the requirements of its participants and the markets it serves.

ATHEXCLEAR is specifically designed to meet the needs of its Clearing Members and their clients.

ATHEXCLEAR, through its Member Support Department, provides full support and adequate training to its participants.

Its governance structure also provides for receiving feedback from stakeholders.

Risk Committee, and the ad hoc Rulebook Amendment Committee consist of members that represent market stakeholders.

ATHEXCLEAR values and incorporates input from market participants related to its clearing and settlement and risk management services and continuously improves its systems, operations and workflows.

## 2.22 Principle 22 - Communication procedures and standards

### ***Principle 22: Communication procedures and standards***

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

ATHEXCLEAR uses relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement and recording.

The Dematerialized Securities System (DSS) is the core IT System for clearing settlement and risk management. DSS access comprises both Man-Machine and Machine-to-Machine interfaces.

Client Institutions such as Trading, Clearing Members and Custodians, either local or remote, are granted access to the full set of relevant services over a private network, by means of a rich-client GUI application, namely the DSS client application, which is installed locally on the customers' premises. A subset of these services, mainly related to ATHEX's Registry, Settlement and Derivatives Clearing functions, is also made available over the same network, via the DSS API interface. The DSS API interface is a communication scheme, supported by a dedicated hardware/software platform, the ATHEX Gateway, which, in turn, is hosted either on the customer's premises or on ATHEX IT infrastructure. This platform implements a number of standard and proprietary communication protocols, thus providing an end-to-end communication bridge between the DSS and back-office applications, running on the customer premises.

Apart from the above interfaces, the DSS is constantly connected to the SWIFT network via a SWIFT-acquired certified infrastructure and utilizes, on a daily basis, FIN (ISO-15022) and Target-2 XML messages, the former being exchanged with other institutions (providing ATHEX with cross-border settlement and custody services), the latter being exchanged with the ECB for cash-settlement purposes. The message communication with both the ECB and the majority of the aforementioned service providers is backed up (or alternatively substituted whenever preferable) by additional thick or thin client GUI applications, provided by these institutions, directly accessible from ATHEX's premises.

Finally, information exchange between the DSS and its participants is also realized by means of existing or ad-hoc FTP and SFTP infrastructures and services in both incoming and outgoing directions. The communication and security characteristics of these services are tailored according to the specific business needs between each participant or group of participants and ATHEX. Usage of such infrastructures currently spans the Derivatives Clearing function, the DSS application updating services and testing and debugging sessions, run in common with the participants.

## 2.23 Principle 23 - Disclosure of rules, key procedures, and market data

### ***Principle 23: Disclosure of rules, key procedures, and market data***

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

ATHEXCLEAR has clear and comprehensive rules and procedures that provide sufficient information to enable Clearing Members to have an accurate understanding of the risks, fees and other material costs they incur by participating in ATHEXCLEAR. All rules and procedures are available to Clearing Members and are publicly disclosed on the ATHEXCLEAR [website](#).

ATHEXCLEAR's Rulebooks clearly and comprehensively:

- describe Clearing Members' rights, obligations and risks
- describe the operation of ATHEXCLEAR under routine and non-routine (e.g., Clearing Member default) conditions

In addition, ATHEXCLEAR provides to both the Clearing Members and the public (through publication in its website) of [Board Resolutions](#), regarding policies and procedures that provide further detail regarding ATHEXCLEAR's :

- Risk management procedures
- Margins and collaterals
- Fees and other material costs
- Clearing operations
- Technical operation details and time schedules of all operations

ATHEXCLEAR has a robust governance process for any changes to the ATHEXCLEAR Rules, inclusive of consultation with stakeholders, public disclosure of all proposed changes and early notification of material changes.

ATHEXCLEAR offers support on a daily basis through its dedicated Members Support department. ATHEXCLEAR also offers support and training to address any lack of understanding of the ATHEXCLEAR Rules or procedures by any Clearing Member.

ATHEXCLEAR has completed this Disclosure Framework and will update it following material changes at ATHEXCLEAR.

Fees are published on ATHEXCLEAR website: <http://www.athexgroup.gr/helex-price-policy>