

BURSA MALAYSIA SECURITIES CLEARING SDN BHD

PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURES

DISCLOSURE FRAMEWORK

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Responding Institution:

Bursa Malaysia Securities Clearing Sdn. Bhd.

Jurisdiction(s) in which the FMI operates:

Malaysia

Authority regulating, supervising, or overseeing the FMI:

Securities Commission Malaysia

The date of this disclosure is 30 June 2022

This disclosure can also be found at:

https://www.bursamalaysia.com/trade/risk_and_compliance/pfmi_disclosure

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Abbreviations:

AC	Audit Committee
APC	Appeals Committee
ACE	FTSE Bursa Malaysia ACE Index
BCP	Business Continuity Plan
BM Depo	Bursa Malaysia Depository Sdn Bhd (the central depository)
BMS	Bursa Malaysia Securities Berhad
BMSC	Bursa Malaysia Securities Clearing Sdn Bhd (the securities clearing house)
BNM	Bank Negara Malaysia (the Central Bank of Malaysia)
Board	Bursa Malaysia Board of Directors
Bursa Malaysia	Bursa Malaysia Berhad (the exchange holding company)
CCP	Central Counterparty
CEO	Chief Executive Officer
CGF	Clearing Guarantee Fund
CMF	Central Matching Facility
CMSA	Capital Market and Services Act 2007
CP	Clearing Participants of BMSC
CPSS-IOSCO	Committee on Payment and Settlement Systems and the Technical Committee of the IOSCO
DBT	Direct Business Transaction
DMC	Default Management Committee
DR	Disaster Recovery
DVP	Delivery Versus Payment
ECS	Equity Clearing & Settlement system
EHC	Exchange Holding Company
EM	Equities Margin
EMAS	FTSE Bursa Malaysia EMAS Index
EMS	Equities Margin System
EOD	End of day
eRapid	Means eRapid system, which is a web-based system established by Bursa Depository for the electronic transmission of circulars containing operational procedures as well as other notices addressed to the CPs
ERM	Enterprise Risk Management
ERMF	Enterprise Risk Management Framework
Exchange	Bursa Malaysia Berhad
FIs	Financial Institutions
FDSS	Fixed Delivery and Settlement System
Group	Bursa Malaysia and its subsidiaries and/or associated companies
IOSCO	International Organization of Securities Commissions

ISS	Institutional Settlement Service
ISSBNT	Islamic Selling and Buying Negotiated Transaction
IT	Information Technology
IP	Internet Protocol
KPI	Key Performance Indicator
LC	Listing Committee
MARC	Malaysian Rating Corporation Berhad
MPC	Market Participants Committee
MMLR	Main Market Listing Requirements
MTM	Mark-to-Market
MYR	Malaysian Ringgit
NTCP	Non-Trading Clearing Participants
NRC	Nomination and Remuneration Committee
PFMI	CPMI-IOSCO Principle for Financial Market Infrastructures
PID	Public Interest Director
PLC	Public Listed Company
PO	Participating Organisation
RACC	Regulatory and Conflicts Committee
RAM	Rating Agency Malaysia
RP	Recovery Plan
RENTAS	Real Time Electronic Transfer of Funds and Securities
RMC	Risk Management Committee
RTO	Recovery Time Objective
Rules of BM Depo	Rules of Bursa Malaysia Depository Sdn Bhd
Rules of BMS	Rules of Bursa Malaysia Securities Bhd
Rules of BMSC	Rules of Bursa Malaysia Securities Clearing Sdn Bhd
SBL	Securities Borrowing and Lending
SBL-CLA	SBL- Central Lending Agency
SBL-NT	SBL-Negotiated Transaction
SBLC	Standby Letter of Credit
SC	Securities Commission Malaysia
SCMA	Securities Commission Malaysia Act 1993
SDC	Sustainability & Development Committee
SICDA	Securities Industry (Central Depositories) Act 1991
SMOC	Securities Market Operations Committee
Stock Exchange	Securities Stock Exchange
TCC	Technology & Cybersecurity Committee
TCP	Trading Clearing Participants of BMSC
USD	United States dollar
VaR	Value-at-Risk

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I. **Executive Summary**

BMSC is a wholly owned subsidiary of Bursa Malaysia and is an approved securities clearing house under the Section 38(4) of the CMSA. It was incorporated on 12 November 1983 and is subject to regulatory oversight by the SC. As a clearing house, it provides clearing and settlements functions for settlement of market contracts.

BMSC currently adopts a stringent risk management and financial safeguard standards for the market to minimise the possibility of a default by its CPs. The default waterfall for BMSC includes EM and CGF. However, in the event of disciplinary and default situations, BMSC is authorised to take actions pursuant to the Rules of BMSC. Please refer to Principle 13 for more information on the participant-default rules and procedures.

This document aims to provide an overview of the relevant disclosure and explains how BMSC operates, aligned with and observes the PFMI developed by the CPMI-IOSCO as well as the SC's Guidelines on Financial Market Infrastructures.

II. **Summary of Major Changes Since the Last Update of the Disclosure**

This document is an update to the version dated June 2021, published as recommended by the PFMI and to continuously assist understanding of BMSC's profiles as well as risk management practices. Changes to BMSC's organisation, services, design, rules, markets served and regulatory environment since the last disclosure are summarised as follow:-

- Amendments to the Rules of BMSC in relation to SBL and ISSBNT with effect from 1 January 2022 to clarify the use of SBL and ISSBNT relating to potential failed trades in relation to Intraday Short Selling ("IDSS"), where SBL and ISSBNT may be used to facilitate the settlement of securities in relation to IDSS executed in accordance with the Rules of BMS, when such IDSS fails to be closed off within the same day. Apart from the amendments above, the Rules of BMSC were made available in Bahasa Malaysia, to promote greater inclusivity and accessibility among market participants and investors. The Bahasa Malaysia translation of the Rules of BMSC are made available on the Bursa Malaysia website from 30 November 2021.

III. **BMSC Background Information**

General Description of the FMI and the Market it Serves

Effectively from 29 April 2019, the Malaysian securities market is on T+2 rolling settlement cycle. When securities are purchased, payment and the securities must change hands no later than two

(2) business days after the trade is executed. BMSC adopts DVP Model II where the securities are settled on gross basis while funds are settled on net basis. BMSC's role as the CCP is to provide clearing and settlement functions for securities trades that are executed On-Market.

There are 2 types of CPs registered with BMSC. They are known as TCP which consists of the stock broking companies and NTCP mainly comprises of the custodian banks. The main responsibility of the CPs is to ensure all trade executed are cleared and settled through BMSC's FDSS.

As part of the clearing and settlement process, BMSC also monitors failed contract where the seller fails to deliver securities to the clearing house on settlement day. The monitoring of this function is to ensure failed trade is settled expeditiously. In Malaysia, treatment for OMT failed trade and DBT failed trade are different. Buying-in is executed for OMT failed trade on T+2. Buying-in will normally complete on the day when the buying-in is executed. In an exceptional situation when the buying-in securities is illiquid, the outstanding failed trade will be cash settled in lieu of delivery of securities on T+3. As for DBT, if the seller failed to deliver the securities on the settlement day, the said transaction will be dropped from the system for settlement. In the event of failed payment by buyer, the securities will be returned to the seller's account.

Please refer to the market statistics on BMS at:

<http://www.bursamalaysia.com/market/securities/equities/market-statistics/>

General Organisation of the FMI

As a wholly owned subsidiary of Bursa Malaysia, BMSC adopted the Governance Model of Bursa Malaysia and the Group's Corporate Authority Manuals. BMSC has a nominal Board where its Board size has been reduced to the minimum size of 2 Directors comprising members of the management, since all major decisions are to be made at the holding company level. Information regarding the governance, ownership and board and management structure of Bursa Malaysia, including that of BMSC is publicly available at the website of Bursa Malaysia: www.bursamalaysia.com.

The Governance Model sets out the clear and direct lines of responsibility and accountability of the Board of Bursa Malaysia, Bursa Malaysia CEO and Board Governance Committees for the Group (i.e. AC, RMC and NRC) the Board Regulatory Committees for the Group (i.e. RACC, LC, MPC and APC; and the Board Development Committees for the Group (i.e. SDC and TCC). The terms of reference of the Board committees are available at Bursa Malaysia website at https://www.bursamalaysia.com/sites/5d809dcf39fba22790cad230/assets/61fc83d95b711a6d70c482e1/GMD-Bursa_Malaysia_Berhad-1_January_2022.pdf.

Legal and Regulatory Framework

The law and relevant rules governing the clearing and settlement activities in the securities markets are the CMSA, the Rules of BMSC, the Rules of BMS, the Rules of BM Depo and the contractual agreement between BMSC and its CPs. BMSC, as an approved clearing house under the CMSA, is subject to the regulatory oversight of the SC. BMSC's operations as a CCP is governed by the CMSA, Rules of BMSC and the market contract it has with its participants. All CPs enter into the market contracts as principal regardless of whether they are acting on behalf of a client or not.

The Rules of BMSC are approved by the SC except for rule changes that have been specifically exempted from the SC's approval, for example amendments that are consequential to law changes. BMSC also has a process to seek external legal opinions where necessary, to ensure the enforceability of the relevant rule or contract. These processes ensure that the Rules of BMSC are clear, understandable, enforceable and consistent with the Malaysian legal framework.

Please refer to Principle 1 for the legal basis for each material aspect of BMSC's activities.

System Design and Operations

BMSC operates the ECS which clears and settles securities trades that are executed on the Exchange. The description of the clearing and settlement process are mentioned below. Besides the ECS, BMSC also operates EMS, ISS and CMF.

Clearing & Settlement Process

Trades that are transacted on the Exchange on any given day will settle on a T+2 settlement cycle. By 2:00 p.m. on T+2 day, trades that failed to be delivered will be sent to the trading system for the buying-in process to begin. Buying-in is instituted against a defaulting participant that failed to deliver securities on the settlement day (T+2). Failed trades are generally very small, which is less than half a percent of the total volume traded.

The exchange of securities and money settlement processes are completed by 10:00 a.m. for first batch settlement run and by 2:00 p.m. for second batch settlement run daily. Essentially for securities movement, the book entry between the seller's and buyer's accounts are debited and credited by 10:00 a.m. for first batch settlement run and by 2:00 p.m. for second batch settlement run. Money settlement process will also be completed by 10:00 a.m. for first batch settlement run and by 2:00 p.m. for second batch settlement run where the buying participant will make payment to the clearing house, and the clearing house will also make payment to the selling participant by 10:00 a.m. for first batch settlement run and by 2:00 p.m. for second batch settlement run daily.

In addition to the above, the clearing house has in place an optional service which allows institutional investors to clear and settle their trades directly with the clearing house. This is performed through the ISS facility where settlement instructions are created between the participants to move securities and funds for settlement of trades on T+2. CMF is used to facilitate the matching of trades and settlement details for ISS or depository transfers. Participants will upload post trade settlement instructions through an automated system between T and T+1 before settlement takes place on T+2. With the introduction of ISS, participants can handle a higher number of pre-matched transactions and facilitate turnaround trades between market participants, minimising settlement risks and facilitating straight through processing.

The fund settlement takes place through RENTAS, a system which is operated by Payments Network Malaysia Sdn Bhd (“PayNet”), which is a subsidiary of BNM.

IV. Disclosure of 24 principles for BMSC

Principle-by-principle summary narrative disclosure	
<p>Principle 1: Legal basis <i>An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.</i></p>	
Summary narrative	<p>The high degree of certainty in the legal framework for the relevant material aspects of the BMSC's activities stems from the clear and unambiguous law, rules and contractual arrangements between BMSC and its CPs.</p> <p>The legal framework governing BMSC's activities consists of the CMSA, Rules of BMSC, Rules of BM Depo, Rules of BMS as well as the contractual agreement between BMSC and the CPs.</p> <p>In addition, certain aspects relating to the activities of BMSC are governed by the provisions of the Evidence Act 1950, Digital Signature Act 1997, Contracts Act 1950 and SCMA.</p> <p>The legal basis (and consequently, the legal certainty) for each of the key aspects of BMSC's activities is properly provided in the following manner:</p> <ul style="list-style-type: none"> (a) Finality: The Rules of BMSC bind the CPs to the market contracts in the system and all settlements are deemed final and irrevocable. In addition, the CMSA provides protection from insolvency proceedings impacting BMSC's default procedures. The Rules of BMSC specify insolvency of a CP as a circumstance upon which a default would be triggered. (b) Netting: Pursuant to the Rules of BMSC, BMSC may set off any amount due from a CP to BMSC against any amount due from BMSC to the CP. (c) Novation: The Rules of BMSC describe the novation process and the point of novation as the moment when the market contract is accepted by BMSC for clearing and settlement. (d) SBL & ISSBNT: SBL was introduced in 2007 based on the guidelines for SBL issued by the SC. Chapter 7 of the Rules of BMSC is in relation to SBL-CLA and sets out the rights and responsibilities of the parties in an SBL-CLA transaction. There are separate master agreements entered into between the borrowers and BMSC and the lenders and BMSC. These agreements also include specific terms and conditions, including the manner in which approved collateral for margin shall be pledged with BMSC. Pursuant to the Rules of BMSC, in the event of a default, BMSC has the power to

	<p>liquidate the collateral of the CP held by BMSC and set off the amounts realised against any loss incurred by BMSC in liquidating or novating the rights and obligations under the open contracts of the CP in default. In the case of SBL-NT and ISSBNT, BMSC does not have a direct role. The SBL-NT agreement and ISSBNT agreement are handled between the two parties outside of the BMSC framework. Chapters 8 and 9 of the Rules of BMSC provide the rules framework for the SBL-NT & ISSBNT respectively.</p> <p>(e) Default handling procedures: The Rules of BMSC specify the default handling procedures - the events that constitute default and the rights of BMSC in the event of a default by a CP including the handling of open contracts and any pending settlements. The CMSA provides that the default procedures of a clearing house shall not be regarded as invalid on the ground of inconsistency with the provisions relating to the distribution of the assets of a person under the laws of insolvency.</p> <p>(f) Applicability of the Rules of BMSC: The Rules of BMSC are binding on the CPs by virtue of CMSA and the contractual relationship between the parties.</p> <p>(g) Regulation and oversight of BMSC: BMSC is an approved securities clearing house under the Section 38(4) of the CMSA and is subject to regulatory oversight by the SC. The SC's role to supervise and monitor the activities of any clearing house is stipulated in section 15(1)(f) of the SCMA and the SC's Guidelines on Financial Market Infrastructures.</p> <p>(h) Other aspects: Aspects relating to the collection of margins, the settlement process, the establishment of the CGF, the delivery procedures and the financial requirements for participants as described in the Rules of BMSC.</p> <p>(i) Relevant jurisdictions: BMSC is incorporated in Malaysia as a 100% subsidiary of Bursa Malaysia and the participants of BMSC, including foreign institutions, are subject to Malaysian laws. Consequently, the relevant jurisdiction is only Malaysia.</p> <p>Where necessary, BMSC seeks external legal opinions to ensure the enforceability of the relevant rule or contract. These processes ensure that the Rules of BMSC are clear, understandable, enforceable and consistent with the Malaysian legal framework.</p> <p>The rule-making process is a robust one, involving benchmarking analysis, review and consultation to ensure that BMSC arrives at balanced and proportionate rules. Specifically, the rules are formulated based on a multi-tiered internal process which includes:</p>
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	<p>(a) consideration of the regulatory objectives to be achieved, concerns to be addressed and the implications of the proposed rule amendments;</p> <p>(b) benchmarking the proposed rule amendments to those of other more developed markets and which has a similar framework so that the rules are on par with international standards, where applicable;</p> <p>(c) consultation with the relevant stakeholders, including market participants and at times the public to ensure that the rules are clear, practical and are aligned with stakeholders' expectations;</p> <p>(d) review of the proposed rule amendments by qualified staff, senior management and the management regulatory committee prior to the approval of the chief regulatory officer; and</p> <p>(e) for major rule amendments, it would require the review and approval of a Board regulatory and conflicts committee, comprising 4 members who are external independent individuals and 3 members who are PIDs of Bursa Malaysia, all of whom are professionals and market experts from the various related fields of the capital market; and</p> <p>(f) approval of the SC for all rule changes except for those that are specifically exempted from the SC's approval, for example, amendments that are editorial or consequential in nature pursuant to changes made to other relevant rules approved by the SC.</p> <p>The Rules of BMSC are also made available in Bahasa Malaysia on the Bursa Malaysia website from 30 November 2021 to enhance the clarity and transparency of the Rules of BMSC for market participants and investors.</p> <p>The Rules of BMSC are publicly available at the Bursa Malaysia website: www.bursamalaysia.com. In addition, all CPs are notified of any amendments to the Rules of BMSC via circulars.</p> <p>The operational procedures are readily accessible by the participants of BMSC via eRapid, These operational procedures are not publicly available.</p>
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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.

Summary narrative	<p>BMSC is a wholly-owned subsidiary of Bursa Malaysia which is an approved EHC under Section 15 of the CMSA. Bursa Malaysia is also a PLC on the Stock Exchange and as a PLC, it is required to comply with the corporate governance practices as stipulated under the MMLR of the Stock Exchange. As an EHC, Bursa Malaysia's objectives are reflective of its duties and responsibilities under the CMSA amongst others, to ensure there are orderly, clear and efficient clearing and settlement arrangements for any transaction in securities cleared or settled through the facilities of its subsidiary that is an approved clearing house (i.e. the BMSC).</p> <p>The CMSA also requires Bursa Malaysia to ensure prudent risk management of its business and operations, and it shall prioritize public interest over its commercial business interests. In this respect, the objectives of BMSC as an approved clearing house are similar, and the same are documented in its constitution. BMSC has specific responsibilities under the CMSA to have at all times, sufficient financial, human and other resources in carrying out its business, to ensure it has adequately and properly equipped premises, competent personnel and automated system with adequate capacity, security arrangements and facilities to meet emergencies.</p> <p>The Governance Model of Bursa Malaysia sets out the clear and direct lines of responsibility and accountability of the Board of Bursa Malaysia, Bursa Malaysia CEO, the Board Governance Committees for the Group (i.e. AC, RMC and NRC; and the Board Regulatory Committees for the Group (i.e. RACC, LC, MPC and APC); and the Board Development Committees for the Group (i.e. SDC and TCC).</p> <p>Section 21 of the CMSA provides that in performing its duties, the EHC shall act in the public interest, having particular regard to the need for the protection of investors. Further, the EHC shall ensure that where its own interest conflicts with the public interest, the latter shall prevail.</p> <p>Bursa is also a company listed on the Main Board of the Stock Exchange since 2005 and hence, it has dual objectives i.e. commercial and regulatory.</p> <p>To further strengthen Bursa's governance structure and the framework for handling conflicts of interest (COI) and to address the potential or perceived COI arising from Bursa's dual roles as a business entity and as a frontline regulator, the Regulatory and Conflicts Committee (RACC) was established on 1 August 2013. The RACC is given the mandate to oversee the regulatory function of Bursa Group, and in the performance of its regulatory duties, it shall exercise its judgement independently of Bursa's business functions.</p>
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The RACC comprises 4 members who are external independent individuals and 3 members who are Public Interest Directors of Bursa. The independent individuals were appointed by Bursa Board in consultation with the Securities Commission, and one of them is designated as the RACC Chairman. Bursa Chief Regulatory Officer reports directly to the RACC in relation to the performance of the regulatory function of Bursa Group. This direct line of reporting further strengthens the independence of the RACC.

As the wholly-owned subsidiary of Bursa Malaysia, BMSC adopted the Group Governance Model. The administration and operations of BMSC are carried out at the Group level.

In this respect, BMSC functionally falls under the purview of the Market Operations Division of Bursa Malaysia. All heads of divisions in Bursa Malaysia including the Director of Market Operations of Bursa Malaysia participate in monthly meetings with the Bursa Malaysia CEO. This meeting is used for discussion on all business, strategic and operational issues.

BMSC has a nominal Board (Board with minimum number of directors i.e. two (2) only) as most of the functions of BMSC are discharged / carried out at holding company level. The Board of Bursa Malaysia has primary responsibility for the governance and management of this wholly-owned subsidiary. In addition, the Board of Bursa Malaysia oversees the functioning of the board governance and regulatory committees of the Group.

Information regarding the governance, ownership and board and management structure of Bursa Malaysia, including that of BMSC is publicly available at the website of Bursa Malaysia: www.bursamalaysia.com.

Currently, the Board of Bursa Malaysia consists of nine (9) directors, of which four (4) directors are PIDs and INEDs, four (4) Directors are INEDs and one (1) executive director, who is also the CEO. The four (4) PIDs are appointed by the MOF in line with the requirements under the CMSA for Bursa Malaysia to act in the public interest, having particular regard to the need for the protection of investors in performing its duties as EHC. The Chairman of the Board is also a PID.

In addition, section 10 (1) (b) of the CMSA states that no person other than a PID shall accept appointment, re-appointment, election and re-election as a director of Bursa Malaysia unless the concurrence of the SC is obtained.

The composition of the Board is governed by the provisions in the CMSA, the constitution of Bursa Malaysia and the MMLR of the Stock Exchange. Except for the PIDs, all the directors of Bursa Malaysia are appointed by the Board (or the shareholders of the

	<p>Company at general meeting) with the SC's concurrence. The nomination process is undertaken by the NRC.</p> <p>The Board through the NRC ensures that its composition is refreshed from time to time with new directors having the right mix of skills / experience and diversity. The Board has in place the Board Charter and the "Protocol for Appointment of Directors and Committee members" which sets out a clear and transparent process for Directors' recruitment. The NRC has been tasked with the responsibility to ensure the incoming INEDs have the requisite expertise, knowledge, integrity and professionalism. Based on the annual Board composition review, the NRC would determine any possible gaps having regard to the objectives and strategic direction of the company. These gaps would be reviewed and may be translated into possible "selection criteria" for new directors in a Board refreshment exercise.</p> <p>The ongoing training needs of the board members are assessed as part of the annual review of the board performance. In general, the programmes are focused on the relevant areas for examples; corporate governance, risk and compliance, the trends in global exchanges and capital markets development, cyber threats.</p> <p>The directors continued independence is assessed as part of the annual board performance evaluation, which includes a peer review by other board members.</p> <p>The recruitment process for all senior positions includes interviews with the senior management, the CEO and HOGAN & Virtual assessment. In addition, detailed reference checks are conducted. The CMSA requires Bursa Malaysia to ensure that the staff has the requisite knowledge. Bursa Malaysia has incorporated this into its human resources policies and ensures that all the senior management staff has all the requisite skills. Bursa Malaysia also attempts to maintain a pool of internal successors in the ratio of 1:2 for all senior and critical positions. There is a well-established performance evaluation process against KPI for all employees. The performance of the CEO is assessed by the Board and that of the senior management by the NRC in consultation with the CEO. The performance evaluation process is used to guide the career growth and if need be, any termination.</p> <p>A clear and documented ERMF at the Group level is used to identify and monitor the specific business risk for each business entity. The Risk & Compliance division ensures that Bursa Malaysia has an effective framework and ability to manage all risks as a fully integrated part of the organization including its subsidiaries. Risk & Compliance reports to the RMC. Internal Audit division is independent from all other functions within the Group and reports directly to the AC.</p>
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	<p>A default management framework is in place to manage the default of the Clearing Participants (CP) of BMSC and BMDC. It serves as a comprehensive guide when reviewing and updating the Default Management Procedures (DMP) of both BMSC and BMDC in order to effectively operationalize the DMPs and manage the CP's defaults.</p> <p>In addition, DMP articulates the roles and responsibilities of various stakeholders and the procedures to handle CP's default and the setting up of DMC. In the event of default, DMC will carry out the following:-</p> <ul style="list-style-type: none"> (a) to declare a default; (b) to deliberate the appropriate actions to be taken by BMSC; and (c) to manage communication with other stakeholders. <p>Bursa Malaysia adopts a consultative and inclusive approach to take into account the interest of its participants and other relevant stakeholders in its decision making in relation to its design, rules, overall strategy and major decisions. Prior to initiating changes to its system, services, operations and rules, Bursa Malaysia conducts consultation with its participants and other related users of the system and services. Further, any proposed amendments to rules are subject to the SC's approval. In practice, all major rules amendment submission to the SC for approval requires Bursa Malaysia to obtain feedback from the industry and other relevant users via a consultation process. All rules and amendments are publicly available at the Bursa Malaysia's website. Operational procedures for clearing participants are disseminated to all clearing and depository participants via circulars.</p>
<p>Principle 3: Framework for the comprehensive management of risks <i>An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.</i></p>	
<p>Summary narrative</p>	<p>The types of risk that can arise in BMSC are: -</p> <ul style="list-style-type: none"> (a) credit and liquidity risks arising from its role as the CCP for the securities market and also as lender under the SBL-CLA model. (b) operational reliability risks that could prevent it from discharging its responsibility as a CCP. (c) The general business risks for the Bursa subsidiaries including BMSC are to a large extent subsumed in the overall business risk for the Group, as BMSC is a 100% subsidiary of the Bursa Malaysia.

Each business owner is responsible for identifying the risks their business processes are exposed to, measuring and monitoring the risk indicators and identifying risk management measures and implementing them. The RMC reviews the risk management aspects every quarter and tables all important developments and plans to the Board. The Internal Audit team also reviews the adequacy of the risk management measures periodically. The Risk & Compliance division also conducts continual review of the risk management framework and process for improvement and ensure that they remain relevant to the Group.

The Group has put in place an established risk management framework for managing risks affecting its business and operations which are aligned with the ISO 31000:2018 Risk Management – Guidelines and the PFMI.

The Group's risk management framework is embedded in the ERMF document which is applicable to all the business entities within the Group such as BMSC. With the establishment of the ERMF, the accountability, authority and responsibilities of the relevant parties in the Group for managing risk, including implementing and maintaining the risk management process as well as ensuring the adequacy, effectiveness and efficiency of any controls have been clearly outlined. Within the framework, there is an established and structured process for the identification, assessment, communication, monitoring as well as continual review of risks and effectiveness of risk mitigation strategies and controls at the divisional and enterprise levels. The analysis and evaluation of Bursa Malaysia's risks are guided by the approved risk criteria.

At the Group level, the Risk & Compliance division comprises of three (3) key departments namely ERM, Business Continuity Management and Compliance Management. The objective of the set up was to consolidate the risk management and compliance functions across the Group to provide a holistic and integrated view of risk management and compliance at the enterprise wide level. The ERM department covers four (4) risk management units namely Operational Risk, Financial Risk (including credit and liquidity risk), Strategic Risk and Legal & Regulatory Risk.

The Rules of BMS, BMSC and BM Depo clearly explain the requirements and responsibilities of the participants, and also the responsibilities of the Bursa Malaysia subsidiaries. Bursa Malaysia has established a group approach to supervise the ongoing compliance of the participants to the requirements of the BMSC. The Participants Supervision department of the Bursa Malaysia is entrusted with the responsibility for managing this. The supervision approach is a combination of off-site supervision and on-site inspections. As part of the off-site supervision - weekly, monthly and annual submission of various financial indicators and data is required.

BMSC has identified the following entities that could pose material risks to it, i.e., participants, BM Depo, settlement banks, liquidity provider, SBLC's issuance banks and banks where the BMSC maintains its funds. BMSC leverages on Participant Supervision to manage the risks arising from the participants to ensure ongoing compliance to relevant requirements including capital adequacy, risk management capabilities and reporting. The Group have established a methodology for selecting its banking partners, settlement banks and also the banks whose SBLC it accepts. A combination of financial indicators like capital adequacy ratios, credit rating and operational services provided is used as part of this methodology. In addition, it has established bank-wise concentration limits for the various services it uses. BMSC uses the BM Depo for securities transfers and also for maintaining the securities collateral it collects for the SBL-CLA and also the loaned securities.

Bursa Malaysia has a BCM Framework in place, that has identified four broad components within BCM, i.e. governance, policy and process, tools and methodology and effective practices. There are various recovery strategies in place to minimise business disruption during crisis or disaster and are periodically tested through regular Business Continuity Plan (BCP) tests. The BCM Guidelines and BCP are reviewed regularly based on new developments and BCP test findings.

BMSC has established a CGF which is intended to cover the default of two (2) participants with the largest and fifth largest exposures. In the unlikely event of two (2) participant defaults, BMSC is equipped with an established set of rules and procedures to manage such defaults. To further strengthen such safeguards, the Group has already initiated the development of a RP to recover from uncovered losses and liquidity shortfall which aligns with the global standard of the "Recovery of financial market infrastructures" as set out by the IOSCO. The RP covers the exposures of BMSC and complements with the existing PFMI which are observed by BMSC. This will only serve to increase the resiliency and robustness of BMSC's existing risk management standards to withstand any eventuality of disorderly failure which can lead to severe systemic market disruptions. In addition, the RP provides a foundation for the establishment of a resolution plan to be initiated by the regulator to provide a comprehensive resolution in the unlikely event of a failed recovery process to ensure that critical services can continue to be offered to the market participants.

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 CCP 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 CCP in extreme but plausible market conditions. All other CCPs 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 CCP in extreme but plausible market conditions.

<p>Summary narrative</p>	<p>Through its primary function as a CCP, BMSC is exposed to both current and potential future exposures arising from the principal relationship established with their clearing participants. Current exposure arises from fluctuations in market value of open positions between the CCP and clearing participants. In contrast, potential future exposure arises from potential fluctuations in the market value of defaulting participant’s open positions until the positions are closed out, transferred or fully hedged following a default event.</p> <p>In addition to credit exposure inherent in clearing activity, BMSC is also exposed to credit risk of commercial banks where funds of clearing participants and the CCPs are deposited.</p> <p>BMSC has instituted a framework for managing its credit risk that comprises of the EM daily and intraday requirement; CGF contribution by TCPs and BMSC; stringent financial requirements; and finally, clear and enforceable default rules.</p> <p>The sources of credit risk for BMSC stem from its role as a CCP. As a CCP, BMSC is responsible to settle all novated contracts, even in the event of one of more participants failing to honour their side of the contract.</p> <p>BMSC’s credit exposure to TCPs is primarily mitigated by collection of margins to address both current and potential future exposures. In order to prevent the accumulation of losses, BMSC requires all TCPs to provide collateral for EM requirement which is calculated at the end of each business day as well as during intraday. The collection of EM is critical to mitigate potential future exposure. In line with the concept of “defaulter pays”, the EM collected should be sufficient to cover potential fluctuations in the market value of a defaulting participant’s outstanding settlement exposure following an event of default until they are fully closed out.</p>
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	<p>BMSC has established the sequence of using the available resources for handling participant defaults. The waterfall structure is as follow:</p> <ul style="list-style-type: none">(a) Contributions of the defaulting participant (EM of the defaulting participant and defaulting participant's contribution to the CGF);(b) Clearing house's contribution to the CGF (25% of the CGF fund size) and contributions of the non-defaulting participants; and(c) Additional contribution of the clearing house (60% of the CGF fund size). <p>The contribution of the TCPs to the CGF comprised of a minimum fixed contribution by each TCP (RM 10,000) and a variable contribution. The fund size as well as contributions to the CGF are reviewed quarterly or as and when needed and additional contributions can be called for by BMSC. Failure to honour request for additional contribution is treated as a default and default procedures could be invoked against the erring participant. The CGF is currently set at RM 100 million, with 15% of it coming from the TCPs while 85% from BMSC. In the event of a default by TCP, where CGF is being exhausted, TCPs are required to replenish the CGF in accordance with Rules of BMSC to make good the shortfall.</p> <p>A daily stress test on the adequacy of the CGF is conducted, with the objective to ensure that there are sufficient financial resources for the clearing house to cover default of two (2) participants, i.e. the largest and the fifth largest default exposure. Regular updates are also provided to the senior management, RMC and SC where applicable.</p> <p>The results of the stress tests are analysed by the risk management team to assess the adequacy of the resources. It is also reported to the senior management and RMC on periodic basis. The result is also shared with the SC on periodic basis which will be followed by a discussion, if required. In addition, the reverse stress test is also performed in order to identify sensible market conditions in which the entire waterfall resources available to CCP may be insufficient to cover the potential losses. It is a separate but complementary analysis to the regular stress test performed.</p> <p>BMSC has established a procedure to stress test its exposures in extreme but plausible market conditions taking into account various historical extreme scenarios and hypothetical stress scenarios. The parameters used to stress test are: -</p> <ul style="list-style-type: none">(a) latest outstanding positions of participants;(b) latest financial resources of TCP held by the CCP;
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	<p>(c) pre-defined stress scenarios, including both historical extreme and hypothetical / forward-looking scenarios; and</p> <p>(d) latest price movement in the market.</p> <p>The scenario for stress testing is reviewed at least once monthly and a full model review is conducted annually. This stress test model is also validated annually by an independent party. Following the stress test result, if there is a need to increase or vary the default waterfall resources, the proposal will need to be deliberated by the RMC and approved Board.</p> <p>In the event the CGF stress test simulated exposure beyond the CGF fund size for five (5) business days, BMSC may conduct a review to determine if there is a need to increase the fund size. Increase in CGF fund size is subject to approval by the SC.</p> <p>The Rules of BMSC outline the right of BMSC to require its participants to promptly replenish the CGF that is exhausted during a stressed event.</p> <p>TCPs are required to submit cash positions (both Trust and Non-Trust) and the available credit facilities on a weekly basis to BMSC. This information is used to monitor TCPs' liquidity positions and their abilities to meet the actual settlement amount due to BMSC for trades executed.</p>
<p>Principle 5: Collateral <i>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.</i></p>	
<p>Summary narrative</p>	<p>The accepted collaterals for BMSC are cash in MYR and USD, SBLC and component stocks of FBM100. BMSC accepts cross border collateral restricted to only cash denominated in USD and does not accept the lodgement of shares of related companies by participants in meeting margin requirement to mitigate wrong-way risk.</p> <p>The haircut rate is determined using the 240-day lookback with a multiplier of 1.25, against the floor using historical data from 1997 till date, which also covers the stressed period experienced by the currency pairs. This is to ensure that the model outcome is stable and conservative to address the procyclicality. BMSC performs a daily mark-to-market of the collateral posted and a daily review of the haircut rates' adequacy for foreign currency collateral as well as monthly backtesting. The review result is reported to the senior management, RMC on periodic basis. The result is also shared with the SC on periodic</p>

	<p>basis which will be followed by a discussion, if required. The haircut setting model and procedures are validated annually by an independent party.</p> <p>A feasibility study will be conducted for acceptance of new collaterals based on requests from the participants. The criteria used by BMSC in accepting the collaterals are: -</p> <ul style="list-style-type: none">(a) ability to determine the price accurately and in a timely manner;(b) low volatility of collateral value; and(c) the marketability of the collateral e.g. availability of liquid secondary market. <p>BMSC's margin system is designed to compute collateral value for margin coverage taking into consideration the appropriate haircut and latest mark to market prices. The collateral records are maintained electronically within the BMSC's system and managed by the BMSC's staff, in accordance to a set of operating procedures.</p> <p>Taking into consideration the possible stressed market conditions, a 30% haircut and cross-currency haircut (i.e. applicable if denominated currency is different from margin requirement currency) are applied on value of equities collateral. This is the daily price limit, i.e. the largest possible movement in a single stock in one (1) day. For SBLC, no haircut is applied currently as the value is quoted in MYR for coverage in the same currency.</p> <p>BMSC has established concentration limits for securities and SBLC lodged as collateral for margin. At collateral type level, the acceptable shares are limited to 1% of the public float. This is reviewed/refreshed half yearly in conjunction with the FTSE review on the Index. For SBLC, there are two levels of limit - first is on the overall limit for each issuer, secondly is the limit by each participant to issuer. This is reviewed annually. The adherence to the collateral limit is monitored on a daily basis. As explained under Principle 3, the Group have established a methodology for selecting its banking partners including issuers of SBLC to ensure robust credit standing of the issuers.</p> <p>For currency mismatch, a haircut is imposed on collateral valuation to mitigate foreign exchange risk. The currency haircut rates are monitored daily and back tested on monthly basis. The model is assessed on annual basis to review model performance on adequacy and efficiency. Haircut model is also validated by independent party on annual basis.</p>
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Principle 6: Margin

A CCP should cover its exposure to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

<p>Summary narrative</p>	<p>BMSC introduced EM on 20 June 2016. The EMS is designed to compute EM requirement for each TCP based on their respective portfolio's net exposure over 2-days settlement cycle (effective since 29 April 2019), taking into consideration the concentration risk and variation margin.</p> <p>The EMS is designed to receive settlement data from the clearing system and price data from the Bursa Malaysia system for the computation of margin requirement and valuation of collateral. In addition to EM computation, the EMS also performed collateral management function which includes collateral valuation, haircut management, deposit and withdrawal.</p> <p>The EM Framework adopted by BMSC consists of advance, variation and additional margin. The objective of the advance margin is to cover potential losses arising from the liquidation of TCP's portfolio over the close-out period in the event of default. Advance margin is calculated based on the outstanding trades for each TCP by netting all MTM values, across two (2) settlement days, and multiplied with the stipulated margin rate. Margin rate is derived from the volatility of EMAS and ACE indices. Average volatility of the two (2) indices with look-back period of 120-days is used to compute the VaR figure at 99% confidence level. The two (2) VaR numbers will be weighted by market capitalisation of both indices to arrive at a benchmark margin rate.</p> <p>Variation margin is calculated by taking the difference between traded contract value and MTM value. Variation losses must be made good by TCP with collateral. On the other hand, variation gain will not be paid out to TCP but can be applied to offset advance margin requirement. Additional margin is also required to mitigate the concentration risk of the TCPs' portfolio and exposure arising from any unsettled position. Concentration risk margin is an 5% additional charge imposed on TCP's advance margin if it is deemed to hold concentrated position, i.e. when the netted value of any stock in the portfolio is more than 15% of the TCPs' shareholder fund. The minimum margin rate is set at 2%.</p> <p>Every TCP's margin requirement is computed twice daily (i.e. mid-day and after market close). TCPs will be required to make good the shortfall if the gross margin requirement is greater than existing collateral held by BMSC. The EM is prescribed in the settlement currency, e.g. for settlement exposure in MYR, it will be prescribed in MYR while settlement exposure in USD will require EM in USD.</p>
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	<p>Notwithstanding the calculated gross margin requirement, all TCPs are required to maintain a minimum collateral of RM 250,000 in cash with BMSC. TCPs are also allowed to pledge SBLC or approved shares to meet EM requirement in excess of the RM 250,000. There is no minimum requirement for USD margin requirement.</p> <p>Adequacy of margin rates is back tested daily and reviewed on monthly basis. Sensitivity analysis on model parameters is carried out on monthly basis. The back-testing result is reported to the senior management, RMC on periodic basis. The result is also shared with the SC on periodic basis which will be followed by a discussion, if required. The EM framework is validated by an independent party annually.</p> <p>An operational procedure detailing the margin methodology is shared with all the participants. The procedure also specifies the cut off times for daily margin deposit and withdrawal.</p> <p>In the event that changes are required for any of the margin parameter pursuant to the approved methodology, the risk management department will make recommendation for approval by Director of Risk & Compliance. BMSC will communicate the same to the TCPs via issuance of a circular, and the latest margin rate prescribed by BMSC is available on Bursa Malaysia website.</p>
<p>Principle 7: Liquidity risk</p> <p><i>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.</i></p>	
<p>Summary narrative</p>	<p>BMSC’s liquidity risk management takes into accounts its potential payment obligations and its current resources and it aims to ensure availability of sufficient liquidity to cover any calls for withdrawal of excess margin and default of the two (2) TCPs with largest and fifth largest exposure. The liquidity management framework effectively assists BMSC to measure, monitor and manage its liquidity risk.</p> <p>BMSC conducts liquidity needs assessment on daily basis, in accordance to the methodology set out in the framework. The assessment conducted on areas such as the settlement positions; available financial resources; current investment placements; and, CGF stress test result with simulated potential default. The results from the daily stress tests for credit risks are used to determine the potential size of defaults that the BMSC might need to honour and whether the available liquid resource is adequate to cover the</p>

	<p>exposure. Results of the test are shared with senior management, RMC and SC on a periodic basis.</p> <p>BMSC’s liquidity stress test takes into account the potential credit exposure from default by two (2) TCPs. Amongst others, the stress scenarios include failure of liquidity provider, failure of settlement banks and wrong-way risk. In addition, reverse stress test is performed to identify potential stress scenarios where the entire liquid resources available to BMSC may be insufficient to meet its settlement needs.</p> <p>BMSC’s qualifying resources to meet liquidity requirements are primarily cash balances and intraday credit facilities. BMSC maintains its balances and takes intraday credit facilities only from banks that provide online banking facility and are rated at the minimum A3 or equivalent by RAM or MARC. The adequacy of this resource is assessed through daily liquidity test. To be prudent, the supplemental resources are not taken into consideration in the daily liquidity assessment.</p> <p>BMSC routinely monitors the concentration of exposure and financial condition of the banks with which it places its resources for and avails intraday credit facilities to ensure they have the capacity to meet their commitment on an on-going basis. The procedure to access intraday facilities is frequently tested by BMSC through periodic utilisation of the facility to mitigate timing gap between settlement and investment maturity.</p> <p>BMSC has no access to liquidity facility from BNM.</p> <p>The liquidity risk management methodology is reviewed once a year and the cash-out ratio for liquidity test is reviewed on a quarterly basis. It is also validated annually by an independent party.</p>
<p>Principle 8: Settlement finality <i>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.</i></p>	
<p>Summary narrative</p>	<p>BMSC conducts a T+2 rolling settlement with two settlement runs. Fund pay-ins are received into BMSC’s accounts maintained either at BNM or any of the designated settlement banks. The fund pay-outs by BMSC are made into the CP’s accounts maintained either at BNM or any of the designated banks approved by BMSC. The securities movement are managed by BM Depo under the instructions of the BMSC.</p> <p>The pay-in schedule for the funds leg is 10:00 a.m. for first batch settlement run and 2:00 p.m. for second batch settlement run on all settlement days. Meanwhile, the pay-in</p>

schedule for the funds leg remains at 10:00 a.m. for buying-in contract on all settlement days. Rule 5.3(d)(i) of the Rules of BMSC specifies that remittances and deposits paid by the CPs to the clearing house shall be in immediate available funds. Rule 5.1B of the Rules of BMSC states that the clearing house can instruct debit and credit of the depository account of the buyer and seller, and that these transfers are final, however title over the securities passed only when the buyers pay-in obligation is completed.

Rule 5.7(a) of the Rules of BMSC sets out that the title passes upon full payment. If the buyer defaults in his payment obligations, then as a consequence, BMSC can take action to sell the securities and recoup the losses. The enforceability of this rule is protected by section 53(3) of the CMSA which states that notwithstanding any other provision of law, where any transfer of securities is processed by the central depository to or from a securities account, no title in such securities shall pass to a depositor except as provided under the rules of the approved clearing house.

The daily settlements are completed at 10:00 a.m. for first batch settlement run and 2:00 p.m. for second batch settlement run are deemed final once the funds are credited. The daily settlements for buying-in contract completed at 10:00 a.m. are also deemed final once the funds are credited. Pay-ins for any call for funds for additional contribution to the CGF is also processed with immediate finality.

Rule 8.08 of the Rules of BMS specifies that matched orders are deemed executed except as provided under Rule 8.08(2) of the Rules of Bursa Malaysia Securities. These are further reinforced by the Rules of BMSC.

All trades that are matched on T day must be settled on T+2 by the brokers. Under the ISS arrangement where settlement instruction is generated, settlement will be redirected to indirect participant (NTCP - custodian bank). At any time prior to settlement by 7:30 p.m. on T+1, brokers and indirect participants can delete/cancel an ISS instruction. There is no impact on the trade contract that is due for settlement on T+2. It merely means that the NTCP does not intend to use ISS for its trade settlement. When instruction is deleted, the trade will settle directly with the contracting brokers on T+2 instead (Rule A5.3(c) of the Rules of BMSC). The Rules of BMSC clearly define the point at which settlement is final and this has the backing of the CMSA and hence is protected at the level of law. Final settlement is achieved in real-time.

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 minimise and strictly control the credit and liquidity risks arising from the use of commercial bank money.

<p>Summary narrative</p>	<p>BMSC uses cash account opened with BNM for funds settlement between BMSC and the CPs since 8 January 2018. The fund settlement takes place through RENTAS, a system which is operated by PayNet, which is a subsidiary of BNM.</p> <p>Settlement risk is further mitigated in settlement process between BMSC and the CPs as RENTAS system facilitates payments between BMSC and the CPs on a real-time basis with finality and vice versa for receipts.</p> <p>BMSC uses both BNM and private settlement bank model for fund settlement. BMSC allows participants to choose any bank for settlement upon approval by BMSC.</p> <p>BMSC has established specific criteria for choosing settlement banks as follows:-</p> <ul style="list-style-type: none"> (a) licensed commercial banks approved by BNM; (b) provide online banking system or platform; (c) provide intraday overdraft facility (d) must be able to comply with BMSC's payment cut-off time; and (e) must have good credit standing - minimum of A3 or equivalent by RAM or MARC. <p>The TCPs and NTCPs are required to credit any payments due to BMSC into BMSC's cash account opened with BNM or the designated accounts maintained with appointed clearing banks, and BMSC to credit any payments due to the TCPs and NTCPs in their cash accounts maintained at BNM or designated accounts maintained with the appointed clearing banks or any designated accounts with a bank other than the clearing banks approved by BMSC.</p> <p>BMSC manages concentration risk of settlement banks by imposing exposure limit on each bank.</p>
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<p>Principle 10: Physical deliveries <i>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.</i></p>	
Summary narrative	Not Applicable.
<p>Principle 11: Central securities depositories <i>A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.</i></p>	
Summary narrative	Not Applicable
<p>Principle 12: Exchange-of-value settlement systems <i>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.</i></p>	
Summary narrative	<p>BMSC uses DVP Model II. The funds leg is settled on a net basis at 10:00 a.m. for first batch settlement run and 2:00 p.m. for second batch settlement run on all settlement days. The securities leg is settled in gross 1 to 2 hours before 10:00 a.m. and 2:00 p.m. for respective settlement runs for the trades that are participating in the FDSS settlement and just before 10:00 a.m. and 2:00 p.m. for respective settlement runs for the trades being settled in the ISS settlement mode.</p> <p>The Rules of BMSC deem all the funds and securities transfer done by BMSC are final, however, the title for the securities passes to the buyer only when the funds leg is completed. This is achieved by BM Depo placing a freeze on all securities transfer on all days until 10.00 a.m. and 2:00 p.m. for respective settlement runs to ensure that transferred securities cannot be withdrawn or transferred until the funds leg is done. The only exception is with respect to transfers related to a force buy-in initiated by the BMSC to cover a buyer default. However, the Rule 7.07 of the Rules of BMS empowers the market participant to block his client from transacting on securities if they have not met their settlement obligations.</p>

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.

<p>Summary narrative</p>	<p>Chapter 4 of the Rules of BMSC provides the trigger for default which includes among others non-payment of any dues to BMSC, declaration of insolvency, cancellation of license by the SC or failure to meet the financial requirements specified by BMSC. The grounds for default include events that:</p> <ul style="list-style-type: none"> (i) the TCP's licence is suspended or revoked by the SC or has expired and is not renewed by the SC; (ii) the Trading Clearing Participant fails to comply with or settle any of its financial obligations in relation to the following: (a) a Novated Contract, contribution to the CGF or Margin in accordance with or under the Rules of BMSC or the Rules of BMS; or (b) similar financial obligations under the rules and regulations of any other exchange or clearing house in which the Trading Clearing Participant is a participant or member; (iii) the Trading Clearing Participant fails to pay when due any sum due and payable, or is otherwise in default under the terms of any loan or other agreement relating to the Trading Clearing Participant's indebtedness, or threatens or proposes to suspend, stop, defer or reschedule payment or to default under the terms of such loan or agreement; (iv) a Trading Clearing Participant is insolvent, or unable to pay its debts when they fall due, or a bankruptcy or winding-up petition is presented, or a notice of a proposal for a resolution for the Trading Clearing Participant's winding-up is given, or a voluntary arrangement is approved by a court of law for the benefit of its creditors, or an assignment or composition is made by the Trading Clearing Participant for the benefit of its creditors or any of them, or BMSC considers in its absolute discretion that the occurrence of any such events or their equivalent is imminent or likely in any jurisdiction; (v) a liquidator, receiver, manager, trustee, an administrative receiver or a similar officer is appointed, or a composition or scheme of arrangement is approved by a court of law against the Trading Clearing Participant or an assignment or composition is made by the Trading Clearing Participant for the benefits of its creditors or any of them, or BMSC considers in its absolute discretion that the occurrence of any such events or their equivalent is imminent or likely in any jurisdiction; (vi) a resolution to wind-up the Trading Clearing Participant (save for the purpose of amalgamation or reconstruction) is passed or a bankruptcy or winding-up order is made; or
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(vii) any distress, execution or other process is levied or enforced or served upon or against any property or assets of a Trading Clearing Participant.

The Rules of BMSC also stipulate the process for managing a default event. Rule 4.2 of the Rules of BMSC gives a wide range of powers to BMSC to handle defaults. There is a defined default waterfall for use of financial resources in the event of TCP's default. The Rules of BMSC provide the powers to BMSC to use the resources in the event of default of a participant, in the following sequence:-

- (a) margin collateral of the defaulting participant;
- (b) the defaulting participant's CGF contribution;
- (c) BMSC's CGF contribution and CGF contribution of the other non-defaulting participants on pro-rata basis; and
- (d) BMSC's additional resources to CGF.

The BMSC retains the claims from the defaulting TCP for any sums used from the CGF. In addition, the Rules of BMSC pertaining to CGF provides the power to seek replenishment of the CGF.

The actions that can be taken by BMSC for handling defaults are:-

- (a) to settle all novated contracts and compute the net dues/surplus;
- (b) if there are dues from the TCP then BMSC can use all the TCP's resources which includes the clawback of any securities, EM, CGF and TCP's investment account in the liquidation process; and
- (c) if there is a surplus then the properties in lien can be released.

Section 43 of the CMSA provides for the default proceeding by the clearing house to take precedence over the law of insolvency.

Default drills are conducted annually with TCPs to assess its readiness in managing default management procedure which includes:-

- (a) to test BMSC's default procedures with brokers and other relevant departments within BMSC;

	<p>(b) to identify the market participant’s relevant CDS accounts of the affected T+2 purchase trades; and</p> <p>(c) the claw back of securities and other recovery procedures.</p> <p>Rule 2.11 of the Rules of BMSC direct the CPs to maintain sufficient detail of all transactions and other matters relating to any of its activities and/or related to such activities in any of the services or facilities made available to the CPs by BMSC. In the event of participant’s default, BMSC has the powers to access all the relevant systems and book of accounts of the defaulting participant, to facilitate clearing house’s default action.</p> <p>In addition, BMSC has developed a default management procedure which clearly articulates the roles and responsibilities of various stakeholders and the procedures to handle CP’s default and the setting up of DMC. In the event of default, DMC will carry out the following:-</p> <p>(a) to declare a default;</p> <p>(b) to deliberate the appropriate actions to be taken by BMSC; and</p> <p>(c) to manage communication with other stakeholders.</p> <p>The Rules of BMSC and relevant procedures are posted on Bursa Malaysia website and are also available to the TCPs through the eRapid. Any changes to the rules and procedures are distributed by way of circulars through the eRapid.</p>
<p>Principle 14: Segregation and portability <i>A CCP should have rules and procedures that enable the segregation and portability of positions of a participant’s customers and the collateral provided to the CCP with respect to those positions.</i></p>	
<p>Summary narrative</p>	<p>Section 111 of the CMSA requires all client assets collected by participants to be held in a trust account. The securities accounts of clients are held in BM Depo at the beneficial owner level and hence provides for full segregation.</p> <p>BMSC treats the collateral as that of the TCP. BMSC relies on the portability arrangements of BM Depo with respect to securities. Rule 3.01(2)(f) of the Rules of BM Depo provides for BM Depo to assist in porting client positions from a defaulting participant to another willing participant and also facilitate participants that can accept clients of defaulting participants.</p>

	<p>BMSC does not manage client funds and securities, these are managed by the participants. The CMSA and the Rules of BMSC require participants to ensure segregation of client funds, securities and collaterals. Compliance to this is verified as part of the internal supervision arrangements of the Bursa Malaysia.</p> <p>BM Depo holds securities accounts at beneficial owner level and provides for portability of securities of a client from one participant to another. BMSC relies on this for segregation and portability of securities positions.</p> <p>BMSC collects collateral only from the borrowers of securities in the SBL-CLA model. In the case of the SBL-CLA model, the borrower enters into the transaction as a principal and the collateral is held in the Depository's account opened in the name of each borrower. SBL activity is a regulated activity with very clear set of situations in which securities can be borrowed.</p> <p>The Rules of BMSC and SBL Guidelines are available at the Bursa Malaysia and SC websites respectively.</p>
<p>Principle 15: General business risk <i>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.</i></p>	
<p>Summary narrative</p>	<p>Bursa Malaysia is guided by the ERMF and risk related guidelines to identify, assess, control, monitor and report key risks under the ERMF which also cover general business risks. The oversight, responsibilities and accountability of the risk management process are defined by Bursa's risk governance structure where key risks are managed by the three lines of defence comprising the line managers, risk management and internal audit. These risks are regularly reported to the senior management of Bursa Malaysia, the RMC and the Board.</p> <p>Among others, the review of the annual business plan which include strategic planning and annual budgeting plays a significant role in the management of both internal and external general business risks of Bursa Malaysia. The risk areas relating to general business risks under the ERMF include:</p> <p>(a) the administration and operation of the Group as a business enterprise which could impair the business of Bursa Malaysia;</p>

- (b) potential risks which could adversely affect Bursa Malaysia’s revenue, significant increase in expenses or loss charges against capital;
- (c) business impairment resulting in adverse reputational effects;
- (d) poor execution of business strategy;
- (e) fluctuations in macroeconomic and market activities;
- (f) ineffective talent management;
- (g) lack of technology and product innovation; and
- (h) legal and regulatory changes to the business landscape.

In addition, Bursa Malaysia monitors the general business risk on its financial position for its subsidiaries including BMSC to ensure quality and sufficient liquid net assets are maintained to meet its obligations. On a stand-alone basis, BMSC maintains liquid net assets to cover at least 6 months of its forecast operating expenses. These funds are held in fixed deposits and money market placements with approved financial institutions and liquid money market or fixed income securities which are rated ‘AA3’ and above by RAM or equivalent rating by MARC. These assets can be easily liquidated in adverse market conditions at very little loss of value. The adequacies of the liquid funds are reviewed on a quarterly basis. BMSC’s investment policy and practices are further explained in Principle 16 below. To further strengthen defences against general business risk, the Group has already initiated the development of a RP to recover from non-default related events which aligns with the global standard of the “Recovery of financial market infrastructures” as set out by the IOSCO.

As a wholly owned subsidiary of Bursa Malaysia, BMSC is required by the CMSA to ensure orderly arrangements for the clearing and settlement of the securities transacted on BMS. In the event BMSC cannot continue as a viable entity, then Bursa Malaysia, as the parent company, is ultimately responsible for ensuring alternative arrangements are implemented and BMSC is smoothly wound down. Given that BMSC is wholly owned subsidiary of Bursa Malaysia, the holding company is readily available to inject equity capital into BMSC if required. In addition, the holding company, being a listed entity, may raise additional funds via the capital market for injection of equity capital to BMSC.

Principle 16: Custody and investment risks

An FMI should safeguard its own and its participants' assets and minimise 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.

<p>Summary narrative</p>	<p>The Group is guided by the principal objective to invest CCP members' funds and clearing funds in highly liquid, short term investments with high credit standing and low market risk. This is to ensure timely access to funds at all times.</p> <p>Under the Group's Investment Policy, BMSC is only allowed to invest in deposits or placements with pre-approved FIs that meet strict credit requirements (and within the counterparty limits), money market and fixed income instruments that meet Bursa's stringent credit parameters, and securities issued by or guaranteed by Malaysian government or the BNM.</p> <p>For investments of the CGF (BMSC and participants' contributions) and participants' other funds (i.e. deposits, cash margin collateral etc), BMSC remains conservative by investing only in deposits with pre-approved FIs. For BMSC's own assets, around 95% are invested in deposits with pre-approved FIs and the remaining 5% are invested in fixed income securities. The investment policy also restricts the investments in foreign-currency denominated assets, whereby for the CGF and participants' other funds, BMSC is only permitted to invest in the same foreign currency in which funds were received to minimise foreign exchange exposure risk as well as quicker turnaround time on availability of funds when required. Investments in currencies different from the participants' funds are strictly prohibited. As of end of June 2022, 100% of BMSC's investments are MYR-denominated, with the FIs being incorporated in Malaysia and supervised by BNM. BMSC has prompt access to these assets with low credit, liquidity and market risks.</p> <p>The investment policy sets out stringent credit parameters for approved FIs (such as capital adequacy and credit rating), and the single counterparty exposure limit in each FI. There is no significant exposure to a single FI, as BMSC adheres to the exposure limits which aim to spread out exposures to multiple counterparties. In addition, the list of approved banks and exposure limits are reviewed at least, on an annual basis or as and when required (e.g. in adverse financial condition). BMSC is only permitted to invest in MYR-denominated fixed income securities with a minimum local rating of 'AA3' as rated by RAM (or the equivalent rating by MARC) or minimum foreign rating of 'A-' as rated by Standard & Poor's (or the equivalent rating by Moody's and Fitch).</p> <p>Besides cash deposits, BMSC holds its equity collateral in BM Depo in a central depository managed by Bursa Malaysia. The collateral is only used by BMSC as part of executing its default procedures. The Rules of BMSC state that all interests and other benefit accruing</p>
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	<p>from the underlying asset provided for margin purposes would accrue to the CP. In addition, the Rules of BMSC allow the CP to replace collaterals placed for margin.</p>
<p>Principle 17: Operational risk <i>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 fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.</i></p>	
<p>Summary narrative</p>	<p>Risk & Compliance division of Bursa Malaysia has established an ERMF which was designed based on ISO 31000:2018. One of the risk categories classified in the ERMF is the Operational Risk which is defined as risks arising from deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events that could result in the reduction, deterioration, or breakdown of services provided by Bursa Malaysia and its subsidiaries. The ERMF is supported by the risk related guidelines. The risk related guidelines serves to guide the Group in identifying, monitoring and managing the risks it faces in the course of achieving its operations, strategic and business objectives. In the contexts of operational risk, the risk assessment process involves identifying major processes, measuring risk events in terms of likelihood of occurrence and impact and management of current mitigation controls that are in place and action plans if needed.</p> <p>The ERMF which was approved by the Board defines the roles and responsibilities of the relevant parties including the Board, the RMC and the Management, respectively for managing risks and implementing risk management processes, and ensuring the adequacy and effectiveness of risk mitigation controls. The Board have tasked the RMC with the responsibility of ensuring that the risk management framework of the Group operates effectively. Periodically, the Board will receive updates from the RMC on the progress and assessment of risk management of the Group.</p> <p>The operational risk of Bursa Malaysia is now governed under ERMF which covers the scope below:-</p> <ol style="list-style-type: none"> i. a common definition and risk categories to enable a uniform understanding and consistent approach of managing operational risk across the Group; ii. a governance and oversight structure for operational risk; iii. roles and responsibilities including reporting lines;

- iv. a sound operational risk management approach and process by introducing methodologies/tools and techniques to perform risks assessment/ analysis/ treatment/ monitoring and reporting in a structured, systematic and consistent manner; and
- v. effective communication to cultivate operational risk awareness building.

Operational risk of Bursa Malaysia is further strengthened by following frameworks and guidelines among others:-

- (a) Technology and Cyber Security Risk Guideline:
 - i. To create a common approach for addressing technology and cyber security within Bursa Malaysia; and
 - ii. To ensure technology and cyber security risks are properly managed throughout Bursa Malaysia.
- (b) Framework for Risk Management on Outsourcing Arrangements:
 - i. To define the required environment and organizational components for managing outsourcing risk in a structured, systematic and consistent manner within Bursa Malaysia; and
 - ii. The framework describes risk management practices of risk assessment; due diligence assessment; performance assessment; contract considerations; business continuity requirements; and cyber security requirements.
- (c) Bursa Anti-Fraud, Bribery & Corruption Policy and Guidelines:
 - i. To set the policy stand of Bursa Malaysia in areas relevant to fraud, bribery and corruption and how Bursa staff are expected to conduct themselves in adhering to the highest level of integrity and ethics; and
 - ii. To assist Bursa Malaysia to adopt a pragmatic approach to assess, detect, prevent and respond to fraud, bribery and corruption within the organisation e.g. Bursa risk control self-assessment questionnaires explicitly probes for potential risk of fraud, bribery and corruption in Bursa staff operational activities within and with external parties.

BMSC performs equities clearing and settlement functions through ECS. Henceforth, the operational reliability objectives of the BMSC is dependable on the performance of the ECS. The ECS is adequately equipped to support the securities clearing and settlement process. The ECS is being maintained regularly to ensure a high degree of security, performance, operational reliability and scalable capacity. This is achieved through IT initiatives undertaken by Bursa Malaysia's Group Technology division together with the ongoing support and maintenance arrangements with IT vendors. For instance, the performance of

the ECS is measured and monitored at its average and peak central processing unit utilisation level, whereas its capacity is observed via its average and maximum daily trade transactions processing.

Based on total securities trading volume done by Bursa Malaysia over the last few years, the ECS was able to sufficiently meet the scalable capacity adequacy to handle increasing volumes and its service-level objectives. There was no breach on the capacity limits of the ECS for the period of reporting from July 2021 to June 2022.

To ensure the reliability and availability of the ECS, the following controls are in place:-

- (a) Incident management and problem management procedures are available and in compliance with Information Technology Infrastructure Library (“ITIL”). All incidents are centrally logged into the Enterprise Service Management system and categorised by priority. Incidents are escalated to relevant IT support teams, and respective vendors with 24/7 support service for resolution.
- (b) As one of the Bursa Malaysia’s critical systems, all major components of the system are in cluster mode at the main site and it has redundant servers at the Bursa Malaysia DR Site. This is to cater for high availability and reliability of the system.
- (c) Performance of the system is monitored using specific monitoring tools which have alert capabilities to trigger alarms in the event that thresholds are being breached.
- (d) Quality assurance of the changes to the system undergoes testing by vendors and internal users. For critical and major changes, an industry wide mock testing is conducted with the market participants.
- (e) Change, Incident and Problem management process is in place where all changes to the system are centrally logged to the Enterprise Service Management system, managed and assessed in respect of impact and risk of the change to the system.

Audit engagements and independent reviews are carried out by the Internal Audit on operational systems, processes, policies and procedures based on an annual audit plan approved by the AC. All key operational areas and processes are audited within an approved cycle with higher frequency of coverage depending its criticality and Internal Audit risk-assessment. Using a risk-based audit approach, Internal Audit assesses the selected areas under the audit scope in relation to effective mitigation of risk exposures, compliance towards the approved policies and procedures and relevant laws and regulations as well as improvement to the overall internal control system. As part of the risk-based audit plan,

<p>Internal Audit also conducts post implementation reviews after a predefined period to assess the realised benefits of the implemented significant systems and projects.</p> <p>In relation to physical and information security control and policies in addressing the confidentiality, integrity, availability and potential vulnerabilities and threats of BMSC and ECS, several policies and controls have been implemented by Group Technology division. These policies and controls encompass the following:-</p> <p>Bursa Malaysia Information Security Policy and Standards</p> <ul style="list-style-type: none">• Bursa Malaysia Information Security Policy (“BMISP”)• Bursa Malaysia Information Security Standards (“BMISS”) <p>Bursa Malaysia has implemented appropriate protective and detective controls to minimise the likelihood and impact of a cyber-attack on critical business functions and information assets.</p> <p>The controls for physical and logical access are the following: -</p> <p>(a) Entry into data centers and sensitive areas are controlled using combination of access cards and security identification codes and restricted only to authorized personnel.</p> <p>(b) Super IDs or privilege-IDs are centrally controlled and managed by Privilege Access management system.</p> <p>(c) System and data owners identified, and access matrix defined, access to confidential and restricted information on need basis and upon approval.</p> <p>Bursa Malaysia is certified with ISMS - ISO 27001:2013 for Equity Clearing Services. The ISMS re-certification assessment was completed successfully in November 2020. The certification is valid until 1 December 2023.</p> <p>Bursa Malaysia’s Cyber Security Strategy Roadmap is a 3-year (2020-2023) roadmap and actions designed to continuously improve the cyber security preparedness and resilience of Bursa Malaysia’s infrastructure and services. This is in line and to support the overall business strategy and business plans of the Bursa Malaysia Group.</p> <p>Bursa Malaysia has invested and implemented tools, process and mechanisms to enhance the cyber resilience capabilities to anticipate, withstand, contain and rapidly recover from a cyber incident with the objective of limiting the escalating risks that cyber threats pose to Bursa Malaysia and its stakeholders. Amongst the controls that have been put in place are:-</p>
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- (a) Vulnerability assessment and penetration test conducted regularly to proactively identify security vulnerabilities in systems and the appropriate remedial actions taken to address any weaknesses.
- (b) Security monitoring of Bursa's network and infrastructure is in place to continuously monitor, detect and mitigate malicious activity or suspicious traffic on the network. Technology refresh on security devices and technologies was carried out to ensure adequate threat mitigation is in place to ensure the security of Bursa's network.
- (c) Re-designed staff Internet access to use a separate network firewall and broadband line to minimise Internet bandwidth contention during peak utilisation for business application / traffic and to prevent cyber-attack.
- (d) Anti-virus software implemented for all desktops, servers, email exchange and gateway.
- (e) Information leakage control to avoid unauthorised access and data leakage.
- (f) Independent consultant to conduct social engineering test to evaluate staff awareness in identifying scam (e.g. email phishing and physical tailgating test), granting access permission to restricted areas and sharing of sensitive information.
- (g) External professional to conduct source code review for in-house developed software to provide comprehensive assurance that Bursa Malaysia's application is secured in terms of application flaw.
- (h) Established Bursa Malaysia Computer Emergency Response Team ("BMCERT") to elevate the operational improvement and instil a culture of cyber risk awareness on incident response to cyber threats.
- (i) Participated in Capital Market Cyber Drill Simulation ("CMCDS") organised by the SC on 16 November 2021. Bursa Malaysia was identified as a key participant to participate in the CMCDS with the aim to strengthen the market preparedness in responding and recovering from potential cyber incidents. It is crucial for Bursa Malaysia to remain vigilant and maintain visibility on cyber preparedness and resilience. The objective of the Drill is to identify potential gaps in technology capabilities and incident response processes. Overall cyber simulation result for capital market has improved in 2021. Bursa Malaysia will be participating in CMCDS for 2022 scheduled on 10 November 2022.

The cyber security core functions and controls are reviewed and assessed to observe with the Guidance on Cyber Resilience for Financial Market Infrastructures issued by IOSCO as well as to comply with the Guidelines on Management of Cyber Risk issued by the SC.

In relation to BMSC having a BCP, the following are put in place: -

(a) BCP

The overall approach is geared towards ensuring adequate back-up arrangements for all critical office facilities and system components; online data replication from the main site to the DR site and data back-ups to ensure no data loss; and, developing business continuity procedures and testing them periodically. The failure of the critical system components is mitigated with clustering and redundant systems/infrastructure facilities at Bursa Malaysia's main site, hence minimising the needs to failover to Bursa Malaysia's DR site/systems. The systems at Bursa Malaysia's DR site are capable of running all functionalities that are currently available at main site.

(b) Alternate Site and Backup Systems and Office Facilities

The Group's back-up systems and office facilities are housed in its own DR site in Kuala Lumpur which is away from the main site. These two different sites are provisioned from different power sub-stations and different telecom exchanges for electricity supply and telecommunication services respectively, to mitigate the risk of concurrent impact to both sites. The DR site is having adequate capacity and as part of the annual BCP testing has been found to be capable of handling the operations for a sustained period of time.

(c) BCP and Testing

The Group has a comprehensive group wide BCP plan. The BCP is tested annually with the participation of all stakeholders with target RTOs of 2 to 4 hours. The BCP test includes participation of the BMSC participants, they are required to connect to the Bursa Malaysia's DR site and verify their ability to conduct their usual services and also the integrity of their data. Appropriate recalibration of the BCP are made and if required these are re-tested. Procedures in the BCP for mitigating business interruption risks are tested at least once a year. These procedures are also subjected to external audits by the SC and the appointed external auditor of Bursa Malaysia.

(d) BMSC's Workflow and Recovery Time Window

BMSC's securities (post trade functions) settlement is on T+2 market day and the business (production) hours are from 8:45 a.m. to 7:30 p.m. from Monday to Friday. The EOD batch processes for the ECS are from 9:30 p.m. to 11:30 p.m. After the EOD processes, the settlement details files are successfully generated and sent to the participants and the settlement instructions are sent to the settlement banks for execution by 10:00 a.m. on the settlement day. In the event of ECS disruption before or during the EOD processes and after ECS recovery, BMSC could extend the production hours and delay the EOD processes accordingly so long as the EOD processes can be completed at around 8:00 a.m. on the settlement day. This gives BMSC a window of 8.5 hours or more for recovery, resumption and execution of EOD processes where applicable. The second batch settlement run is from 11:30 a.m. to 1:00 p.m. After the second batch settlement processes, the settlement details files are successfully generated and sent to the participants and the settlement instructions are sent to settlement banks for execution by 2:00 p.m. on the settlement day. In the event of ECS disruption happens between 8:30 a.m. and 7:30 p.m. (during intraday), the ECS backup system at Bursa DRC will be invoked within 2 hours and ECS will be extended up to 9:00 p.m. to all Clearing Participants to complete their respective transactions. If fund settlement process is expected to exceed 4:00 p.m. (RENTAS cut-off time is by 4:00 pm.) then settlement banks will be used for fund settlement purposes.

(e) RTO and BCP Test Results

Both the securities trading and clearing & settlement systems are classified as critical systems with RTO of 3 hours and 2 hours respectively. The recovery time achieved for an intraday failure scenario for the securities trading and clearing & settlement systems during the Industry Wide Testing for Securities and Bond Market for year 2021 BCP tests were within the pre-set RTOs of 3 hours and 2 hours respectively. The BCP tests were successfully simulated.

(f) Market Participant's DR Site, BCP and Testing

In addressing the risks of key participants may pose to its operations, Bursa Malaysia requires all market participants to maintain robust BCP and this is ascertained as part of the ongoing supervision activities which includes onsite audits of the DR sites of the participants. The participants are also required to participate in the BCP tests of the Bursa Malaysia. As part of the BCP testing, the Bursa Malaysia's treasury processing and cash settlement unit which deals with the settlement bank including the ones which are liquidity providers, checks its ability to function from the DR site. The ability to provide online banking facilities is one of the criteria used to select settlement banks and banks that provide liquidity support.

<p>Principle 18: Access and participation requirements <i>An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.</i></p>	
<p>Summary narrative</p>	<p>Criteria and requirements for participation, which are objective and risk-based, are set out in the Rules of BMSC which are available at the Bursa Malaysia website.</p> <p>BMSC has two (2) types of membership:-</p> <p>(a) TCPs who are brokers (POs of BMS); and</p> <p>(b) NTCPs who are essentially custodians (bank or companies authorised or licensed to engage in investment business and statutory organisations which act as custodian for clients).</p> <p>General admission criteria for TCPs include the following:-</p> <p>(a) financial integrity;</p> <p>(b) absence of convictions or civil liabilities;</p> <p>(c) competence;</p> <p>(d) good reputation and character;</p> <p>(e) efficiency and honesty;</p> <p>(f) scope of authorization under any laws of Malaysia, or by a regulatory authority in Malaysia;</p> <p>(g) operational capability, including adequately trained personnel, data processing capacity and suitable premises; and</p> <p>(h) minimum financial requirement as may be prescribed by BMSC.</p> <p>General admission criteria for NTCPs include the following:-</p> <p>(i) an organisation carrying on financial services business by providing safe custody facilities and services with respect to securities listed and traded on the Exchange;</p>

(ii) an organisation authorised or licensed under the laws of Malaysia to engage in investment business (directly or indirectly) and such organisation invests in securities listed on and traded on the Exchange for its own account and/or for the account of clients or other parties

Minimum financial requirements:-

- (a) For TCPs, the financial requirements are as per that for a PO in the Rules of BMS.
- (b) For NTCPs, it is required to have a paid-up capital of not less than RM 2 million unless it is a statutory organisation or authority of Malaysia or any state of Malaysia.

All TCPs and NTCPs need to be members of BM Depo, as all client accounts are tied to a TCP and where relevant, a NTCP.

Applicant for TCP of BMSC is required to undergo a readiness audit before being allowed admission. NTCP is not subjected to a readiness assessment as they are either licensed FIs or statutory organisation or authority.

Bursa Malaysia monitors ongoing compliance of participants. The participants of the exchanges, the clearing houses and the depository are all subject to the same process.

Bursa Malaysia uses a combination of off-site supervision based on periodic submissions and on-site inspections in order to ensure that its participants comply with the rules. On-site inspection frequency is guided by a risk-based profile of each participant. Participants with a higher risk profile are audited more frequently and thematic/limited scope inspections are carried out when the need arises. The scope of the on-site and off-site supervision activities include, among others, verifying participants' ability to meet payment obligations and ensuring that appropriate policies and procedures are in place for the areas of risk management, governance, compliance, human resources, internal audit and security of IT systems.

The compliance head of a PO is required to report any violation of the Rules of BMS to the Stock Exchange.

All the POs are required to report their capital adequacy ratio, liquidity position, analysis of client positions, profit and loss statement and compliance to the clients' trust account requirement on a periodic basis. In addition, there are reporting requirements related to proprietary positions, errors and under-margining for SBL by their clients. These reporting

	<p>requirements are stipulated in the directives for the POs which are publicly available at the Bursa Malaysia website.</p> <p>NTCPs are not subjected to on-site and off-site supervision as the obligation of clearing lies with the TCPs. NTCPs are facilitating the clearing of trades via the Institutional Settlement Service (“ISS”).</p> <p>BMSC has adequate powers to ensure it is able to smoothly handle the exit of a participant. Rules 2.12 and 2.14 of the Rules of BMSC require a participant to provide at least 30 days’ notice and gives discretionary powers to BMSC to reject the request if it could pose concerns to the orderly functioning of the clearing house. In addition, these rules provide BMSC the powers to place specific restrictions on the participant in the intervening period to ensure BMSC can smoothly process the request for termination.</p> <p>The exit of a participant could arise from either a resignation or actions taken under a disciplinary proceeding where the participant is deregistered due to breaches of the rules or failure to meet the minimum financial requirement. We have clearly defined procedures to handle the orderly exit of a participant which will ensure that clients’ assets are returned or transferred to another participant and all obligations between the participant and the clearing house are settled.</p> <p>The overview of the enforcement/ disciplinary proceedings and processes are set out in Bursa Malaysia’s Intermediaries Communication on Enforcement/Disciplinary Proceedings and Processes (“ICON-DP”) (PCN 2/2017) which is published on Bursa’s website. The ICON-DP covers all enforcement/disciplinary proceedings of Bursa’s Business Rules, which fulfills the public disclosure procedures as mentioned in the principle 18. In addition, a copy of the Explanatory Notes on Enforcement Proceedings will be enclosed with the Requisite Notice (“RN”) upon issuance of the RN to the errant participant.</p>
<p>Principle 19: Tiered participation arrangements <i>An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.</i></p>	
<p>Summary narrative</p>	<p>Not Applicable.</p>
<p>Principle 20: FMI links <i>An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link related risks.</i></p>	
<p>Summary narrative</p>	<p>The only link BMSC has is with BM Depo for settlement of securities and depositing equity collaterals collected from the TCPs. The operational risks arising from this linkage are included in the overall operational reliability planning of the Group. The overall plan</p>

	<p>addresses operational risks that are associated with failure in software, infrastructure, network, or processes. Periodic industry wide business continuity plan exercise is conducted among BMSC, BMDepo and the market participants. Incident report is raised for any significant technical or operational incidents with coverage of assessment, mitigating actions to prevent the recurrence of the incident.</p> <p>BMSC and BM Depo are institutions that have been created in accordance with the provisions in the CMSA and SICDA respectively. These are also supervised and overseen by the SC. In addition, BMSC and BM Depo are the Group institutions and are subject to the Group governance model.</p>
<p>Principle 21: Efficiency and effectiveness <i>An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.</i></p>	
<p>Summary narrative</p>	<p>BMSC assesses the effectiveness in meeting the requirements of its participants through various engagements.</p> <p>Industry and/or public consultation is conducted prior to introduction of any changes to Rules and/or product offering and launching. There is also a formal engagement in the form of SMOC that includes members of the Stock Exchange / clearing house / depository and participants. The committee meets regularly to discuss market related matters. The operations of the SMOC are governed by clear terms of reference.</p> <p>The objectives of BMSC are aligned with Bursa Malaysia’s overall vision:</p> <ul style="list-style-type: none"> (a) to process, execute and complete all clearing and settlement activities in a timely manner, in accordance with the prescribed procedures, rules, guidelines and directives. (b) to provide an efficient, reliable and stable clearing and settlement infrastructure. (c) to ensure adequate risk management measures, including monitoring participant’s ability to meet their settlement obligations, effective handling of default and adequacy of financial resources. <p>BMSC reviews its efficiency and effectiveness by conducting periodic benchmarking. In addition, BMSC has identified and established the following targets for key operational indicators to ensure BMSC continue to observe and achieve an efficient and effective level in discharging its duties</p> <ul style="list-style-type: none"> (a) time taken to complete trade processing;

	<p>(b) adherence to payment cut-off times; and</p> <p>(c) system availability.</p> <p>On top of that, BMSC obtains feedback from the participants through consultation. BMSC also performs a post implementation review for any new initiatives, which involves consultation with the participants that is the requirement imposed by the SC for any new approved initiatives/projects.</p>
<p>Principle 22: Communication procedures and standards <i>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.</i></p>	
<p>Summary narrative</p>	<p>BMSC uses a proprietary message format. However, the system interfaces use the industry standard protocols like TCP/IP.</p> <p>BMSC clears and settles securities market transactions in Malaysia and for this purpose, BMSC uses proprietary message formats for exchanging of securities transfer instructions with BM Depo and for receipt of ISS confirmations from the NTCPs. The other interactions with the participants are through system screens, and industry standard protocols.</p>
<p>Principle 23: Disclosure of rules, key procedures, and market data <i>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 and fees and other material costs they incur by participant in the FMI. All relevant rules and key procedures should be publicly disclosed.</i></p>	
<p>Summary narrative</p>	<p>BMSC has clear and comprehensive rules to govern the CPs, complemented by operational procedures. The rule-making process is a robust one, involving benchmarking, analysis, review and consultation to ensure that BMSC arrives at balanced and proportionate rules. Specifically, the rules are formulated based on a multi-tiered internal process which include:-</p> <p>(a) consideration of the regulatory objectives to be achieved, concerns to be addressed and the implications of the proposed rule amendments;</p> <p>(b) benchmarking the proposed rule amendments to those of other more developed markets and which has a similar framework so that the rules are on par with international standards, where applicable;</p>

- (c) consultation with the relevant stakeholders including market participants and at times the public to ensure that the rules are clear, practical and are aligned with stakeholders' expectations;
- (d) review of the proposed rule amendments by qualified staff, senior management and the management regulatory committee prior to the approval of the chief regulatory officer;
- (e) for major rule amendments, it would require the review and approval of a Board regulatory and conflicts committee, comprising 4 members who are external independent individuals and 3 members who are PIDs of Bursa Malaysia, all of whom are professionals and market experts from the various related fields of the capital market; and
- (f) approval of the SC for all rule changes except for those that are specifically exempted from the SC's approval, for example amendments that are editorial or consequential in nature pursuant to changes made to other relevant rules approved by the SC.

Where required, BMSC also has a process to seek external legal opinions where necessary, to ensure the enforceability of the relevant rule or contract.

The Rules of BMSC are publicly available at the Bursa Malaysia website: www.bursamalaysia.com. As at 30 November 2021, the Rules of BMSC are also available in Bahasa Malaysia as part of Bursa Malaysia's effort to promote greater inclusivity and accessibility among market participants and investors. In addition, all CPs are notified of any amendments to the rules via circulars through eRapid.

The operational procedures are also readily accessible by the participants of BMSC via eRapid, a web-based solution to facilitate electronic transmission of circulars containing operational procedures as well as other notices addressed to the participants. These operational procedures are not publicly available.

The CPs are provided with network connectivity file specifications and message specifications for system connectivity and interface requirements. Technical documents on the system processes and designs are sent to participants through circulars.

The fees and charges are provided to all new participants and changes are notified through circulars.

	<p>Bursa Malaysia currently discloses quantitative data on performance of BMSC, financial condition and resources to SC on a quarterly basis.</p> <p>All new participants are provided with training to ensure they have the requisite knowledge of the systems, processes and rules. The ongoing supervision activities are used to identify if there are any gaps in the knowledge relating to process and rules. Based on discussions with the participants, a suitable course of action is determined, which could include additional training. If need be, training will be provided to participants on areas that the participants feel they require a refresher.</p>
<p>Principle 24: Disclosure of market data by trade repositories <i>A trade repository should provide timely and accurate data to relevant authorities and the public in line with their respective needs.</i></p>	
<p>Summary narrative</p>	<p>Not Applicable.</p>

V. List of publicly available resources

Relevant information pertaining to BMSC can be found at
https://www.bursamalaysia.com/trade/market/securities_market

Links to documents referenced within this Disclosure Framework are below:

Capital Markets and Services Act 2007
<https://www.sc.com.my/regulation/acts/capital-markets-and-services-act-2007>

Corporate governance model
https://www.bursamalaysia.com/about_bursa/about_us/corporate_governance/governance_model

Securities: Rules of BMS
https://www.bursamalaysia.com/regulation/securities/rules_of_bursa_malaysia_securities

Securities: Rules of BMSC
https://www.bursamalaysia.com/regulation/securities/rules_of_bursa_malaysia_securities_clearing

Information on transaction cost
https://www.bursamalaysia.com/trade/trading_resources/equities/transaction_costs

Market statistics
https://www.bursamalaysia.com/market_information/market_statistic/securities