

AMENDMENTS TO POLICY STATEMENT TO REGULATION 24-102 RESPECTING CLEARING AGENCY REQUIREMENTS

1. Section 1.1 of *Policy Statement to Regulation 24-102 respecting Clearing Agency Requirements* is amended by replacing, in paragraph (2), “this Part 1 of the Policy Statement, section 3.2 and 3.3 of Part 3 of this Policy Statement, and the *text boxes* in Annex I” with “this section, sections 1.2 and 1.3 of this Policy Statement, and Annexes I and II”.

2. Section 1.2 of the Policy Statement is amended by replacing, in paragraph (3), “Annex I to this Policy Statement includes supplementary guidance in *text boxes* that applies” with “Annexes I and II to this Policy Statement include supplementary guidance that applies”.

3. The Policy Statement is amended by inserting, after section 1.3, the following:

“**1.5.** Section 1.5 provides clarity on the application of the different parts of the Regulation to a clearing agency that has been recognized by a securities regulatory authority, or exempted from recognition, as is further described in section 2.0 of this Policy Statement. Unless otherwise specified, Parts 1, 2, and 5 to 7 generally apply to both a recognized clearing agency and one that is exempted from recognition.”.

4. Section 2.0 of the Policy Statement is amended:

(1) by replacing, in paragraph (2), the words “will generally” with the words “would generally need to”;

(2) by replacing, in paragraph (4), the words “certain material changes to information provided to the securities regulatory authority” with the words “certain changes to information provided to the securities regulatory authority that are material”.

5. Section 2.1 of the Policy Statement is amended by inserting, in the first paragraph, the words “in both substance and process, though its oversight program may differ” after the words “agency is similar”, the words “comprehensive and” after the words “completion of”, and the words “for either recognition or exemption” after the words “application materials”.

6. Section 2.2 of the Policy Statement is amended:

(a) by replacing the first sentence of paragraph (2) with the following:

“The written notice should provide a reasonably detailed description of the significant change (as defined in subsection 2.2(1)), the expected date of the implementation of the change, and an assessment of how the significant change is consistent with the PFMI Principles applicable to the clearing agency (see subsection 2.2(3)).”;

(b) by deleting the last sentence.

7. Section 2.3 of the Policy Statement is amended by deleting the words “within the appropriate timelines”.

8. The Policy Statement is amended by adding, after section 2.3, the following:

“Financial statements

2.4. Financial statements filed under sections 2.4 and 2.5 must disclose the accounting principles used to prepare them. For clarity, financial statements prepared either

in accordance with Canadian GAAP applicable to publicly accountable enterprises or in accordance with IFRS should include:

(a) in the case of annual financial statements, an unreserved statement of compliance with IFRS;

(b) in the case of interim financial statements, an unreserved statement of compliance with International Accounting Standard 34 *Interim Financial Reporting*.

“Filing of interim financial statements

2.5. The term “interim period” in subsection 2.5(2) means a period commencing on the first day of the recognized or exempt clearing agency’s financial year and ending 9, 6 or 3 months before the end of the same financial year, or otherwise in accordance with the regulatory requirements of the jurisdiction in which the clearing agency’s head office or principal place of business is located.”.

9. Section 3.1 of the Policy Statement is amended by inserting, after “explanatory notes in the PFMI Report”, “and other reports or explanatory material published by CPMI and IOSCO that provide supplementary guidance to FMIs on the application of the PFMI Principles”, and by deleting “separate *text boxes* in”.

10. Section 3.2 of the Policy Statement is amended by deleting, before “Notwithstanding section 3.1”, the number “**3.2.**” and by deleting “(see Box 5.1 in Annex I to this Policy Statement)”.

11. Section 3.3 of the Policy Statement is amended by deleting, before “PFMI Principle 14: *Segregation and portability*”, the number “**3.3.**” and, after “- *Customers of IIROC dealer members.*”, “:” after the words “domestic cash markets because”.

12. Section 4.0 of the Policy Statement is amended by inserting, after the words “and apply to a”, the word “recognized”.

13. Section 4.1 of the Policy Statement is amended, in paragraph (4):

(1) by replacing, in the text preceding subparagraph (a), the word “reasonably” with “, absent exceptional circumstances,”;

(2) by replacing, in subparagraphs (a), (b) and (e), the words “executive officer” with the word “officer”.

14. Section 4.2 of the Policy Statement is repealed.

15. Section 4.3 of the Policy Statement is amended:

(1) by inserting, after the first paragraph, the following:

“Consistent with PFMI Principle 2, Key Consideration 6, subsection 4.3(1) is not intended to prevent the CRO and the CCO from reporting to both management and the board, provided that there are adequate safeguards in place to ensure that the CRO and the CCO have sufficient independence from the other members of management in performing their functions as CRO and CCO, particularly their obligations under subsections 4.3(2) and 4.3(3).”;

(2) by inserting, in paragraph (3) and after “role of a CCO”, “(or certain aspects of the role)”.

16. Section 4.6 of the Policy Statement is replaced with the following:

“Systems requirements

4.6. (a) The intent of these provisions is to ensure that controls are implemented to support cyber resilience, information technology planning, acquisition, development and maintenance, computer operations, information systems support and security. Recognized guides as to what constitutes adequate information technology controls may include guidance, principles or frameworks published by the Chartered Professional Accountants - Canada (CPA Canada), American Institute of Certified Public Accountants (AICPA), Information Systems Audit and Control Association (ISACA), International Organization for Standardization (ISO), or the National Institute of Standards and Technology (U.S. Department of Commerce) (NIST). We are of the view that internal controls include controls which support the processing integrity of the models used to quantify, aggregate, and manage the clearing agency’s risks.

(b) Capacity management requires that the clearing agency monitor, review, and test (including stress test) the actual capacity and performance of the system on an ongoing basis. Accordingly, under paragraph 4.6(b), the clearing agency is required to meet certain standards for its estimates and for testing. These standards are consistent with prudent business practice. The activities and tests required in this subsection are to be carried out at least once in each 12-month period. In practice, continuing changes in technology, risk management requirements and competitive pressures will often result in these activities being carried out or tested more frequently.

(c) A security incident is considered to be any event that actually or potentially jeopardizes the confidentiality, integrity or availability of an information system or the information the system processes, stores or transmits, or that constitutes a violation or imminent threat of violation of security policies, security procedures or acceptable use policies. A failure, malfunction, delay or security incident is considered to be “material” if the clearing agency would, in the normal course of operations, escalate the matter to or inform its senior management ultimately accountable for technology. Such events would not generally include those that have or would have little or no impact on the clearing agency’s operations or on participants, although non-material events may become material if they recur or have a cumulative effect. Any event that requires non-routine measures or resources by the clearing agency would also be considered material and thus reportable to the securities regulatory authority. The onus would be on the clearing agency to document the reasons for any security incident it did not consider material. It is expected that, as part of the notification required under paragraph 4.6(c), the clearing agency will provide updates on the status of the event and the resumption of service. Further, the clearing agency should have comprehensive and well-documented procedures in place to record, analyze, and resolve all systems failures, malfunctions, delays and security incidents. In this regard, the clearing agency should undertake a “post-mortem” review to identify the causes and any required improvement to the normal operations or business continuity arrangements. Such reviews should, where relevant, include the clearing agency’s participants. The results of such internal reviews are required to be communicated to the securities regulatory authority as soon as practicable.¹

(d) Pursuant to section 5.1, a recognized clearing agency may be asked to provide the regulator or, in Quebec, the securities regulatory authority, with additional information, such as but not limited to reports, logs or other documents related to a systems failure, malfunction, delay, security incident or any other system or process related data.”.

¹ Adapted from the NIST definition of “incident”. See <https://csrc.nist.gov/Glossary/?term=4730#AlphaIndexDiv>.

17. The Policy Statement is amended by inserting, after section 4.6, the following:

“Auxiliary systems

4.6.1.(2) A recognized clearing agency should also refer to the considerations for paragraph 4.6(c) above with regards to security incidents that arise in connection with auxiliary systems. Pursuant to section 5.1, a recognized clearing agency may be asked to provide the regulator or, in Quebec, the securities regulatory authority, with additional information, such as but not limited to reports, logs or other documents related to a security incident.”.

18. Section 4.7 of the Policy Statement is replaced with the following:

“Systems reviews

4.7. (1) (a) An independent systems review must be conducted and reported on at least once in each 12-month period by a qualified external auditor in accordance with established audit standards and best industry practices. We consider that best industry practices include the ‘Trust Services Criteria’ developed by the American Institute of CPAs and CPA Canada. For the purposes of paragraph 4.7(1)(a), we consider a qualified external auditor to be a person or a group of persons with relevant experience in both information technology and in the evaluation of related internal systems or controls in a complex information technology environment. Before engaging a qualified external auditor to conduct the independent systems review, a clearing agency is expected to discuss its choice of external auditor and the scope of the systems review mandate with the regulator or, in Québec, the securities regulatory authority. We further expect that the report prepared by the external auditor include, to the extent applicable, an audit opinion that (i) the description included in the report fairly presents the systems and controls that were designed and implemented throughout the reporting period, (ii) the controls stated in the description were suitably designed, and (iii) the controls operated effectively throughout the reporting period.

(b) The clearing agency must also establish and perform effective assessment and testing methodologies and practices and would be expected to implement appropriate improvements where necessary. The assessments and testing required in this section, such as vulnerability assessments and penetration tests, are to be carried out by a qualified party on a reasonably frequent basis and, in any event, at least once in each 12-month period. For the purposes of paragraph 4.7(1)(b), we consider a qualified party to be a person or a group of persons with relevant experience in both information technology and in the evaluation of related internal systems or controls in a complex information technology environment. We consider that qualified parties may include external auditors or third party information system consultants, as well as employees of the clearing agency or an affiliated entity of the clearing agency, but may not be persons responsible for the development or operation of the systems or capabilities being tested. The securities regulatory authority may, in accordance with securities legislation, require the clearing agency to provide a copy of any such assessment.”.

19. Section 4.9 of the Policy Statement is amended by replacing the word “annually” with “at least once in each 12-month period”.

20. Section 5.2 of the Policy Statement is amended:

(1) by replacing paragraph (1) with the following:

“(1) The Global Legal Entity Identifier System defined in subsection 5.2(1) is a G20 endorsed system² that is intended to serve as a public-good utility responsible for overseeing the issuance of legal entity identifiers (LEIs) globally in order to uniquely

² See http://www.financialstabilityboard.org/list/fsb_publications/tid_156/index.htm for more information.

identify parties to transactions. It was designed and implemented under the direction of the LEI Regulatory Oversight Committee, a governance body endorsed by the G20.”;

(2) by deleting paragraph (3).

22. Annex I of the Policy Statement is replaced with the following:

**“ANNEX I
JOINT SUPPLEMENTARY GUIDANCE DEVELOPED BY THE BANK OF
CANADA AND CANADIAN SECURITIES ADMINISTRATORS ON THE PFMI
PRINCIPLES**

Joint Supplementary Guidance has been developed by the BOC and the securities regulatory authorities to provide additional clarity on certain aspects of selected PFMI Principles within the Canadian context. It is found on the BOC website and in annexes to the Policy Statement (to the *CSA Regulation 24-102 respecting Clearing Agency Requirements*).

The Joint Supplementary Guidance applies in respect of recognized domestic clearing agencies that are designated as systemically-important by the BOC and jointly overseen by the BOC and one or more securities regulatory authorities (referred to in this Joint Supplementary Guidance as an “FMI”).

Beyond observation of the PFMI Principles, an FMI is expected to take into account the “Explanatory Notes” for each applicable PFMI Principle, other reports and explanatory materials published by CPMI and IOSCO that supplement the PFMI Report and that provide guidance to FMIs on the application of the PFMI Principles, as well as this Joint Supplementary Guidance or any future guidance published jointly by the BOC and the securities regulatory authorities.

The Joint Supplementary Guidance below appears under the relevant headings for each applicable PFMI Principle (referred to by the BOC as its “Risk-Management Standards for Designated FMIs”).

PFMI Principle 3: Framework for the comprehensive management of risks

- a. Joint Supplementary Guidance for PFMI Principle 3 has been developed by the BOC and CSA pertaining to FMI recovery planning. This guidance can be found separately on the BOC website and in Annex II to the Policy Statement.

PFMI Principle 5: Collateral

- a. An FMI should not rely solely on external opinions to determine collateral eligibility.
- b. In general, most of the FMI’s collateral pools should be composed of cash and debt securities issued or guaranteed by the Government of Canada, a provincial government or the U.S. Treasury.
- c. Additional asset classes may be acceptable as collateral if they are subject to conservative haircuts and concentration limits. An FMI should limit such assets to a maximum of 40% of the total collateral posted from each participant. It should also limit securities issued by a single issuer to a maximum of 5% of total collateral from each participant. Such assets are:
 - Securities issued by a municipal government;
 - Bankers’ acceptances;
 - Commercial paper;
 - Corporate bonds;

- Asset-backed securities that meet the following criteria:
 - 1) sponsored by a deposit-taking financial institution that is prudentially-regulated at either the federal or provincial level;
 - 2) part of a securitization program supported by a liquidity facility; and
 - 3) backed by assets of an acceptable credit quality;
 - Equity securities traded on marketplaces regulated by a member of the CSA; and
 - Other securities issued or guaranteed by a government, central bank or supranational institution classified as Level 1 high-quality assets by the Basel Committee on Banking Supervision.
- d. Since it is highly likely that the value of debt and equity securities issued by companies operating in the financial sector would be adversely affected by the default of an FMI participant – introducing wrong-way risk for an FMI that has accepted such securities as collateral – an FMI should:
- Limit the collateral from financial sector issuers to a maximum of 10% of total collateral pledged from each participant; and
 - Not allow a participant to pledge as collateral securities issued by itself or an affiliate.

PFMI Principle 7: Liquidity risk

- a. Liquidity facilities should include at least three independent liquidity providers to ensure the FMI has access to sufficient liquid resources even in the event one of its liquidity providers defaults.
- b. Uncommitted liquidity facilities are considered qualifying liquid resources for liquidity exposure in Canadian dollars if they meet all of the following additional criteria:
 - The liquidity provider has access to the Bank of Canada's Standing Liquidity Facility (SLF);
 - The facility is fully-collateralized with SLF-eligible collateral; and
 - The facility is denominated in Canadian dollars.

PFMI Principle 15: General business risk

- a. Liquid net assets funded by equity must be held at the level of the FMI legal entity to ensure they are unencumbered and can be accessed quickly.

PFMI Principle 16: Custody and investment risks

- a. It is paramount that an FMI have prompt access to assets held for risk-management purposes with minimal price impact. For the purposes of PFMI Principle 16, financial instruments can be considered to have minimal credit, market and liquidity risk if they are debt instruments that are:
 - Securities issued or guaranteed by the Government of Canada;
 - Marketable securities issued by the U.S. Treasury;
 - Securities issued or guaranteed by a provincial government;
 - Securities issued by a municipal government;
 - Bankers' acceptances;
 - Commercial paper;
 - Corporate bonds; and
 - Asset-backed securities that are:

- 1) sponsored by a deposit-taking financial institution that is prudentially regulated at either the federal or provincial level;
- 2) part of a securitization program supported by a liquidity facility; and
- 3) backed by assets of an acceptable credit quality.

b. Investments should also, at a minimum, observe the following:

- To reduce concentration risk, no more than 20% of total investments should be invested in any combination of municipal and private sector securities. Investment in a single private sector or municipal issuer should be no more than 5% of total investments.
- To mitigate specific wrong-way risk, investments should, as much as possible, be inversely related to market events that increase the likelihood of those assets being required. Investment in financial sector securities should be no more than 10% of total investments. An FMI should not invest assets in the securities of its own affiliates.
- For investments that are subject to counterparty credit risk, an FMI should set clear criteria for choosing investment counterparties and setting exposure limits.

“ANNEX II JOINT SUPPLEMENTARY GUIDANCE DEVELOPED BY THE BANK OF CANADA AND CANADIAN SECURITIES ADMINISTRATORS ON RECOVERY PLANS

Context

In 2012, to enhance the safety and efficiency of payment, clearing and settlement systems, CPMI and IOSCO released a set of international risk-management standards for FMIs, known as the PFMI.¹ The PFMI provide standards regarding FMI recovery planning and orderly wind-down, which were adopted by the Bank of Canada as Standard 24 of the Bank’s *Risk-Management Standards for Systemic FMIs*² and by the CSA as part of the Regulation.³ In the context of recovery planning,

An FMI is expected to identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. This entails preparing appropriate plans for its recovery or orderly wind-down based on the results of that assessment.

In October 2014, CPMI and IOSCO released its report, “Recovery of Financial Market Infrastructures” (the Recovery Report), providing additional guidance specific to the recovery of FMIs.⁴ The Recovery Report explains the required structure and components of an FMI recovery plan and provides guidance on FMI critical services and recovery tools at a level sufficient to accommodate possible differences in the legal and institutional environments of each jurisdiction.

For the purpose of this guidance, FMI recovery is defined as the set of actions that an FMI can take, consistent with its rules, procedures and other ex ante contractual agreements, to address any uncovered loss, liquidity shortfall or capital inadequacy, whether arising from participant default or other causes (such as business, operational or other structural weakness), including actions to replenish any depleted pre-funded financial resources and

¹ Available at <http://www.bis.org/cpmi/publ/d101a.pdf>.

² See key consideration 4 of PFMI Principle 3 and key consideration 3 of PFMI Principle 15 which are adopted in the Regulation, section 3.1.

³ The Bank of Canada’s *Risk-Management Standards for Systemic FMIs* is available at <http://www.bankofcanada.ca/core-functions/financial-system/bank-canada-risk-management-standards-systemic-fmis/>.

⁴ Available at <http://www.bis.org/cpmi/publ/d121.pdf>.

liquidity arrangements, as necessary, to maintain the FMI's viability as a going concern and the continued provision of critical services.^{5,6}

Recovery planning is not intended as a substitute for robust day-to-day risk management or for business continuity planning. Rather, it serves to extend and strengthen an FMI's risk-management framework, enhancing the resilience of the FMI against financial risks and bolstering confidence in the FMI's ability to function effectively even under extreme but plausible market conditions and operating environments.

Key Components of Recovery Plans

Overview of existing risk-management and legal structures

As part of their recovery plans, FMIs should include overviews of their legal entity structure and capital structure to provide context for stress scenarios and recovery activities.

FMIs should also include an overview of their existing risk-management frameworks—i.e., their **pre-recovery** risk-management frameworks and activities. As part of this overview, and to determine the relevant point(s) where standard pre-recovery risk-management frameworks are exhausted, FMIs should identify all the material risks they are exposed to and explain how they use their existing pre-recovery risk-management tools to manage these risks to a high degree of confidence.

Critical services⁷

In their recovery plans, FMIs should identify, in consultation with Canadian authorities and stakeholders, the services they provide that are critical to the smooth functioning of the markets that they serve and to the maintenance of financial stability. FMIs may find it useful to consider the degree of **substitutability** and **interconnectedness** of each of these critical services, specifically

- ❖ The degree of criticality of an FMI's service is likely to be high if there are no, or only a small number of, alternative service providers. Factors related to the substitutability of a service could include (i) the size of a service's market share, (ii) the existence of alternative providers that have the capacity to absorb the number of customers and transactions the FMI maintains, and (iii) the FMI participants' capability to transfer positions to the alternative provider(s).
- ❖ The degree of criticality of an FMI's service may be high if the service is significantly interconnected with other market participants, both in terms of breadth and depth, thereby increasing the likelihood of contagion if the service were to be discontinued. Potential factors to consider when determining an FMI's interconnectedness are (i) what services it provides to other entities and (ii) which of those services are critical for other entities to function.

Stress scenarios⁸

In their recovery plans, FMIs should identify scenarios that may prevent them from being able to provide their critical services as a going concern. Stress scenarios should be focused on the risks an FMI faces from its payment, clearing and settlement activity. An FMI should then consider stress scenarios that cause financial stress in excess of the capacity of its existing pre-recovery risk controls, thereby placing the FMI into recovery. An FMI should organize stress scenarios by the types of risk it faces; for each stress scenario, the FMI should clearly explain the following:

⁵ Recovery Report, Paragraph 1.1.1.

⁶ For a precise definition of orderly wind-down, see the Recovery Report, Paragraph 2.2.2.

⁷ Recovery Report, Paragraphs 2.4.2–2.4.4.

⁸ Recovery Report, Paragraph 2.4.5.

- ❖ the assumptions regarding market conditions and the state of the FMI within the stress scenario, accounting for the differences that may exist depending on whether the stress scenario is systemic or idiosyncratic;
- ❖ the estimated impact of a stress scenario on the FMI, its participants, participants' clients and other stakeholders; and
- ❖ the extent to which an FMI's existing pre-recovery risk-management tools are insufficient to withstand the impacts of realized risks in a recovery stress scenario and the value of the loss and/or of the negative shock required to generate a gap between existing risk-management tools and the losses associated with the realized risks.

Triggers for recovery

For each stress scenario, FMIs should identify the triggers that would move them from their pre-recovery risk-management activities (e.g., those found in a CCP's default waterfall) to recovery. These triggers should be both qualified (i.e., outlined) and, where relevant, quantified to demonstrate a point at which recovery plans will be implemented without ambiguity or delay.

While the boundary between pre-recovery risk-management activities and recovery can be clear (for example, when pre-funded resources are fully depleted), judgment may be needed in some cases. When this boundary is not clear, FMIs should lay out in their recovery plans how they will make decisions.⁹ This includes detailing in advance their communication plans, as well as the escalation process associated with their decision-making procedures. They should also specify the decision-makers responsible for each step of the escalation process to ensure that there is adequate time for recovery tools to be implemented if required.

More generally, it is important to identify and place the triggers for recovery early enough in a stress scenario to allow for sufficient time to implement recovery tools described in the recovery plan. Triggers placed too late in a scenario will impede the effective rollout of these tools and hamper recovery efforts. Overall, in determining the moment when recovery should commence, and especially where there is uncertainty around this juncture, an FMI should be prudent in its actions and err on the side of caution.

Selection and Application of Recovery Tools¹⁰

A comprehensive plan for recovery

The success of a recovery plan relies on a comprehensive set of tools that can be effectively applied during recovery. The applicability of these tools and their contribution to recovery varies by system, stress event and the order in which they are applied.

A robust recovery plan relies on a range of tools to form an adequate response to realized risks. Canadian authorities will provide feedback on the comprehensiveness of selected recovery tools when reviewing an FMI's complete recovery plan.

Characteristics of recovery tools

In providing this guidance, Canadian authorities used a broad set of criteria (described below), including those from the Recovery Report, to determine the characteristics of effective recovery tools.¹¹ FMIs should aim for consistency with these criteria in the selection and application of tools. In this context, recovery tools should be

⁹ Recovery Report, Paragraph 2.4.8.

¹⁰ Recovery Report, Paragraph 2.3.6 – 2.3.7 and 2.5.6 and Paragraphs 3.4.1 – 3.4.7.

¹¹ Recovery Report, Paragraph 3.3.1.

- ❖ Reliable and timely in their application and have a strong legal and regulatory basis. This includes the need for FMIs to mitigate the risk that a participant may be unable or unwilling to meet a call for financial resources in a timely manner, or at all (i.e., performance risk), and to ensure that all recovery activities have a strong legal and regulatory basis.
- ❖ Measurable, manageable and controllable to ensure that they can be applied effectively while keeping in mind the objective of minimizing their negative effects on participants and the broader financial system. To this end, using tools in a manner that results in participant exposures that are determinable and fixed provides better certainty of the tools' impacts on FMI participants and their contribution to recovery. Fairness in the allocation of uncovered losses and shortfalls, and the capacity to manage the associated costs, should also be considered.
- ❖ Transparent to participants: this should include a predefined description of each recovery tool, its purpose and the responsibilities and procedures of participants and the FMIs subject to the recovery tool's application to effectively manage participants' expectations. Transparency also mitigates performance risk by detailing the obligations and procedures of FMIs and participants beforehand to support the timely and effective rollout of recovery tools.
- ❖ Designed to create appropriate incentives for sound risk management and encourage voluntary participation in recovery to the greatest extent possible. This may include distributing post-recovery proceeds to participants that supported the FMI through the recovery process.

Systemic stability

Certain tools may have serious consequences for participants and for the stability of financial markets more generally. FMIs should use prudence and judgment in the selection of appropriate tools. Canadian authorities are of the view that FMIs should be cautious in using tools that can create uncapped, unpredictable or ill-defined participant exposures, and which could create uncertainty and disincentives to participate in an FMI. Any such use would need to be carefully justified. Participants' ability to predict and manage their exposures to recovery tools is important, both for their own stability and for the stability of the indirect participants of an FMI.

In assessing FMI recovery plans, Canadian authorities are concerned with the possibility of systemic disruptions from the use of certain tools or tools that pose unquantifiable risks to participants. When determining which recovery tools should be included in a recovery plan, and selecting and applying such tools during the recovery phase, FMIs should keep in mind the objective of minimizing their negative impacts on participants, the FMI and the broader financial system.

Recommended recovery tools

This section outlines recommended recovery tools for use in FMI recovery plans. Not all tools are applicable for the different types of FMIs (e.g., a payment system versus a central counterparty), nor is this an exhaustive list of tools that may be available for recovery. Each FMI should use discretion when determining the most appropriate tools for inclusion in its recovery plan, consistent with the considerations discussed above.

❖ **Cash calls**

Cash calls are recommended for recovery plans to the extent that the exposures they generate are fixed and determinable; for example, capped and limited to a maximum number of rounds over a specified period, established in advance. In this context, participant exposures should be linked to each participant's risk-weighted level of FMI activity.

By providing predictable exposures pro-rated to a participant's risk-weighted level of activity, FMIs create incentives for better risk management on the part of participants, while giving the FMI greater certainty over the amount of resources that can be made available during recovery.

Since cash calls rely on contingent resources held by FMI participants, there is a risk that they may not be honoured, reducing their effectiveness as a recovery tool. The management of participants' expectations, especially through the placement of clear limits on participant exposure, can mitigate this concern.

Cash calls can be designed in multiple ways to structure incentives, vary their impacts on participants and respond to different stress scenarios. When designing cash calls, FMIs should, to the greatest extent possible, seek to minimize the negative consequences of the tool's use.

❖ **Variation margin gains haircutting (VMGH)**

VMGH is recommended for recovery plans because participant exposure under this tool can be measured with reasonable confidence, as it is tied to the level of risk held in the variation margin (VM) fund and the potential for gains. Where recovery plans allow for multiple rounds of VMGH, Canadian authorities will consider the impact of each successive round of haircutting with increasing focus on systemic stability.

VMGH relies on participant resources posted at the FMI as variation margin (VM). Where the price movements of underlying instruments create sufficient VM gains for use in recovery, VMGH provides an FMI with a reliable and timely source of financial resources without the performance risk that is associated with tools reliant on resources held by participants.

VMGH assigns losses and shortfalls only to participants with net position gains; as a result, the pro rata financial burden is higher for these participants. The negative effects of VMGH can also be compounded for participants who rely on variation margin gains to honour obligations outside the FMI. FMIs should seek to minimize these negative effects to the greatest extent possible.

❖ **Voluntary contract allocation**

To recover from an unmatched book caused by a participant default, a CCP can use its powers to allocate unmatched contracts.¹² In the context of recovery, contract allocation is encouraged on a voluntary basis –for example, by auction. Voluntary contract allocation addresses unmatched positions while taking participant welfare into account, since only participants who are willing to take on positions will participate.

The reliance on a voluntary process, such as an auction, introduces the risk that not all positions will be matched or that the auction process is not carried out in a timely manner. Defining the responsibilities and procedures for voluntary contract allocation (e.g., the auction rules) in advance will mitigate this risk and increase the reliability of the tool. To ensure that there is adequate participation in an auction process, FMIs should create incentives for participants to take on unmatched positions. FMIs may also wish to consider expanding the auction beyond direct participants to increase the chances that all positions will be matched.

❖ **Voluntary contract tear-up**

Since eliminating positions can help re-establish a matched book, Canadian authorities view voluntary contract tear-up as a potentially effective tool for FMI recovery. To this

¹² A CCP "matched book" occurs when a position taken on by the CCP with one clearing member is offset by an opposite position taken on with a second clearing member. A matched book must be maintained for the CCP to complete a trade. An unmatched book occurs when one participant defaults on its position in the trade, leaving the CCP unable to complete the transaction.

end, FMIs may want to consider using incentives to encourage voluntary tear-up during recovery.¹³ While contract tear-up undertaken on a voluntary basis is a recommended tool, the forced termination of an incomplete trade may represent a disruption of a critical FMI service, and can be intrusive to apply (see the section “Tools requiring further justification” for a discussion of forced contract tear-up).

To the extent that voluntary contract tear-up may disrupt critical FMI services, it can produce disincentives to participate in an FMI. There should be a strong legal basis for the relevant processes and procedures when voluntary contract tear-up is included in a recovery plan. This will help to manage participant expectations for this tool and ensure that confidence in the FMI is maintained.

Other tools available for FMI recovery include standing third-party liquidity lines, contractual liquidity arrangements with participants, insurance against financial loss, increased contributions to pre-funded resources, and use of an FMI’s own capital beyond the default waterfall. These and other tools are often already found in the pre-recovery risk-management frameworks of FMIs. Canadian authorities encourage their use for recovery as well, provided they are in keeping with the criteria for effective recovery tools as found in the Recovery Report and in this guidance.¹⁴ Where system-specific recovery needs necessitate, FMIs can also design recovery tools not explicitly listed in this guidance. The applicability of such tools will be examined by the Canadian authorities when they review the proposed recovery plan.

To the extent that the costs of recovery are shared less equally under some tools (e.g., VMGH), if it is financially feasible, FMIs could consider post-recovery actions to restore fairness where participants have been disproportionately affected. Such actions may include the repayment of participant contributions used to address liquidity shortfalls and other instruments that aim to redistribute the burden of losses allocated during recovery. It is important to note that these actions in the post-recovery period should not impair the financial viability of the FMI as a going concern.

Tools requiring further justification

Due to their uncertain and potentially negative effects on the broader financial system, tools that are more intrusive or result in participant exposures that are difficult to measure, manage or control, must be carefully considered and justified with strong rationale by the FMI when they are included in a recovery plan. Canadian authorities will provide their views on the suitability of any such tools as part of their review of recovery plans.

For example, uncapped and unlimited cash calls and unlimited rounds of VMGH can create ambiguous participant exposures, the negative effects of which must be prudently considered when including them in a recovery plan. In addition, when applied during the recovery process, Canadian authorities will monitor the application of each successive round of cash calls and VMGH with increased focus on systemic stability.

Tools such as involuntary (forced) contract allocation and involuntary (forced) contract tear-up create exposures that are difficult to manage, measure and control. To the extent that these tools are even more intrusive, they have the ability to pose greater risk to systemic stability. Canadian authorities acknowledge that such tools have potential utility when other recovery options are ineffective, and could possibly be used by a resolution authority, but expect FMIs to carefully assess the potential impact of such tools on participants and the stability of the broader financial system.

Canadian authorities do not encourage the use of non-defaulting participants’ initial margin in FMI recovery plans considering the potential for significant negative impacts.¹⁵

¹³ Recovery Report, Paragraph 4.5.3.

¹⁴ Recovery Report, Paragraph 3.3.1.

¹⁵ Recovery Report, Paragraph 4.2.26.

Similarly, a recovery plan should not assume any extraordinary form of public or central bank support.¹⁶

Recovery from non-default-related losses and structural weaknesses

Consistent with a defaulter-pays principle, an FMI should rely on FMI-funded resources to address recovery from non-default-related losses (i.e., operational and business losses on the part of an FMI), including losses arising from structural weakness.¹⁷ To this end, FMIs should examine ways to increase the loss absorbency between the FMI's pre-recovery risk-management activities and participant-funded resources (e.g., by using FMI-funded insurance against operational risks).

Structural weakness can be an impediment to the effective rollout of recovery tools and may itself result in non-default-related losses that are a trigger for recovery. An FMI recovery plan should identify procedures detailing how to promptly detect, evaluate and address the sources of underlying structural weakness on a continuous basis (e.g., unprofitable business lines, investment losses).

The use of participant-funded resources to recover from non-default-related losses can lessen incentives for robust risk management within an FMI and provide disincentives to participate. If, despite these concerns, participants consider it in their interest to keep the FMI as a going concern, an FMI and its participants may agree to include a certain amount of participant-funded recovery tools to address some non-default-related losses. Under these circumstances, the FMI should clearly explain under what conditions participant resources would be used and how costs would be distributed.

Defining full allocation of uncovered losses and liquidity shortfalls

Principles 4 (credit risk)¹⁸ and 7 (liquidity risk)¹⁹ of the PFMI require that FMIs should specify rules and procedures to fully allocate both uncovered losses and liquidity shortfalls caused by stress events. To be consistent with this requirement, **Canadian FMIs should consider various stress scenarios and have rules and procedures that allow them to fully allocate any losses or liquidity shortfalls arising from these stress scenarios, in excess of the capacity of existing pre-recovery risk controls.** Tools used to address full allocation should reflect the Recovery Report's characteristics of effective recovery tools, including the need to have them measurable, manageable and controllable to those who will bear the losses and liquidity shortfalls in recovery, and for their negative impacts to be minimized to the greatest extent possible.

Legal consideration for full allocation

An FMI's rules for allocating losses and liquidity shortfalls should be supported by relevant laws and regulations. There should be a high level of certainty that rules and procedures to fully allocate all uncovered losses and liquidity shortfalls are enforceable and will not be voided, reversed or stayed.²⁰ This requires that Canadian FMIs design their recovery tools in compliance with Canadian laws. For example, if the FMI's loss-allocation rules involve a guarantee, Canadian law generally requires that the guaranteed amount be determinable and preferably capped by a fixed amount.²¹

¹⁶ Recovery Report, Paragraph 2.3.1.

¹⁷ Structural weakness can be caused by factors such as poor business strategy, poor investment and custody policy, poor organizational structure, IM/IT-related obstacles, poor legal or regulatory risk frameworks, and other insufficient internal controls.

¹⁸ Under key consideration 7 of PFMI Principle 4, an FMI should establish explicit rules and procedures that fully address any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI.

¹⁹ Under key consideration 10 of PFMI Principle 7, FMIs should establish rules and procedures that address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking or delaying the same-day settlement of payment obligations.

²⁰ PFMI Report, Paragraph 3.1.10.

²¹ The Bank Act, Section 414(1) and IIROC Rule 100.14 prohibit banks and securities dealers, respectively, from providing unlimited guarantees to an FMI or a financial institution.

FMI should consider whether it is appropriate to involve indirect participants in the allocation of losses and shortfalls during recovery. To the extent that it is permitted, such arrangements should have a strong legal and regulatory basis; respect the FMI's frameworks for tiered participation, segregation and portability; and involve consultation with indirect participants to ensure that all relevant concerns are taken into account.

Overall, FMIs are responsible for seeking appropriate legal advice on how their recovery tools can be designed and for ensuring that all recovery tools and activities are in compliance with the relevant laws and regulations.

Additional Considerations in Recovery Planning

Transparency and coherence²²

An FMI should ensure that its recovery plan is coherent and transparent to all relevant levels of management within the FMI, as well as to its regulators and overseers. To do so, a recovery plan should

- ❖ contain information at the appropriate level and detail; and
- ❖ be sufficiently coherent to relevant parties within the FMI, as well as to the regulators and overseers of the FMI, to effectively support the application of the recovery tools.

An FMI should ensure that the assumptions, preconditions, key dependencies and decision-making processes in a recovery plan are transparent and clearly identified.

Relevance and flexibility²³

An FMI's recovery plan should thoroughly cover the information and actions relevant to extreme but plausible market conditions and other situations that would call for the use of recovery tools. An FMI should take into account the following elements when developing its recovery plan:

- ❖ the nature, size and complexity of its operations;
- ❖ its interconnectedness with other entities;
- ❖ operational functions, processes and/or infrastructure that may affect the FMI's ability to implement its recovery plan; and
- ❖ any upcoming regulatory reforms that may have the potential to affect the recovery plan.

Recovery plans should be sufficiently flexible to address a range of FMI-specific and market-wide stress events. Recovery plans should also be structured and written at a level that enables the FMI's management to assess the recovery scenario and initiate appropriate recovery procedures. As part of this expectation, the recovery plan should demonstrate that senior management has assessed the potential two-way interaction between recovery tools and the FMI's business model, legal entity structure, and business and risk-management practices.

Implementation of Recovery Plan²⁴

An FMI should have credible and operationally feasible approaches to recovery planning in place and be able to act upon them in a timely manner, under both idiosyncratic and market-wide stress scenarios. To this end, recovery plans should describe

²² Recovery Report, Section 2.3.

²³ Recovery Report, Section 2.3.

²⁴ Recovery Report, Paragraph 2.3.9.

- ❖ potential impediments to applying recovery tools effectively and strategies to address them; and
- ❖ the impact of a major operational disruption.²⁵

This information is important to strengthen a recovery plan's resilience to shocks and ensure that the recovery tools are actionable.

A recovery plan should also include an escalation process and the associated communication procedures that an FMI would take in a recovery situation. Such a process should define the associated timelines, objectives and key messages of each communication step, as well as the decision-makers who are responsible for it.

Consulting Canadian authorities when taking recovery actions

While the responsibility for implementing the recovery plan rests with the FMI, Canadian authorities consider it critical to be informed when an FMI triggers its recovery plan and before the application of recovery tools and other recovery actions. To the extent an FMI intends to use a tool or take a recovery action that might have significant impact on its participants (e.g. tools requiring further justification), the FMI should consult Canadian authorities before using such tools or taking such actions to demonstrate how it has taken into account potential financial stability implications and other relevant public interest considerations. Authorities include those responsible for the regulation, supervision and oversight of the FMI, as well as any authorities who would be responsible for the FMI if it were to be put into resolution.

Relevant Canadian authorities should be informed (or consulted as appropriate) early on and interaction with authorities should be explicitly identified in the escalation process of a recovery plan. Acknowledging the speed at which an FMI may enter recovery, FMIs are encouraged to develop formal communications protocols with authorities in the event that recovery is triggered and immediate action is required.

Review of Recovery Plan²⁶

An FMI should include in its recovery plan a robust assessment of the recovery tools presented and detail the key factors that may affect their application. It should recognize that, while some recovery tools may be effective in returning the FMI to viability, these tools may not have a desirable effect on its participants or the broader financial system.

A framework for testing the recovery plan (for example, through scenario exercises, periodic simulations, back-testing and other mechanisms) should be presented either in the plan itself or linked to a separate document. This impact assessment should include an analysis of the effect of applying recovery tools on financial stability and other relevant public interest considerations.²⁷ Furthermore, an FMI should demonstrate that the appropriate business units and levels of management have assessed the potential consequences of recovery tools on FMI participants and entities linked to the FMI.

Annual review of recovery plan

An FMI should review and, if necessary, update its recovery plan on an annual basis. The recovery plan should be subject to approval by the FMI's Board of Directors.²⁸ Under the following circumstances, an FMI is expected to review its recovery plan more frequently:

²⁵ This is also related to the FMI's backup and contingency planning, which are distinct from recovery plans.

²⁶ Recovery Report, Paragraph 2.3.8.

²⁷ This is in line with key consideration 1 of PFMI Principle 2 (Governance), which states that an FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.

²⁸ Recovery Report, Paragraph 2.3.3.

- ❖ if there is a significant change to market conditions or to an FMI's business model, corporate structure, services provided, risk exposures or any other element of the firm that could have a relevant impact on the recovery plan;
- ❖ if an FMI encounters a severe stress situation that requires appropriate updates to the recovery plan to address the changes in the FMI's environment or lessons learned through the stress period; and
- ❖ if the Canadian authorities request that the FMI update the recovery plan to address specific concerns or for additional clarity.

Canadian authorities will also review and provide their views on an FMI's recovery plan before it comes into effect. This is to ensure that the plan is in line with the expectations of Canadian authorities.

Orderly Wind-Down Plan as Part of a Recovery Plan²⁹

Canadian authorities expect FMIs to prepare, as part of their recovery plans, for the possibility of an orderly wind-down. However, developing an orderly wind-down plan may not be appropriate or operationally feasible for some critical services. In this instance, FMIs should consult with the relevant authorities on whether they can be exempted from this requirement.

Considerations when developing an orderly wind-down plan

An FMI should ensure that its orderly wind-down plan has a strong legal basis. This includes actions concerning the transfer of contracts and services, the transfer of cash and securities positions of an FMI, or the transfer of all or parts of the rights and obligations provided in a link arrangement to a new entity.

In developing orderly wind-down plans, an FMI should elaborate on

- ❖ the scenarios where an orderly wind-down is initiated, including the services considered for wind-down;
- ❖ the expected wind-down period for each scenario, including the timeline for when the wind-down process for critical services (if applicable) would be complete; and
- ❖ measures in place to port critical services to another FMI that is identified and assessed as operationally capable of continuing the services.

Disclosure of recovery and orderly wind-down plans


An FMI should disclose sufficient information regarding the effects of its recovery and orderly wind-down plans on FMI participants and stakeholders, including how they would be affected by (i) the allocation of uncovered losses and liquidity shortfalls and (ii) any measures the CCP would take to re-establish a matched book. In terms of disclosing the degree of discretion an FMI has in applying recovery tools, an FMI should make it clear to FMI participants and all other stakeholders ahead of time that all recovery tools and orderly wind-down actions that an FMI can apply will only be employed after consulting with the relevant Canadian authorities.

Note that recovery and orderly wind-down plans need not be two separate documents; the orderly wind-down of critical services may be a part or subset of the recovery plan. Furthermore, Canadian FMIs may consider developing orderly wind-down plans for non-critical services in the context of recovery if winding down non-critical services could assist in or benefit the recovery of the FMI.

²⁹ Recovery Report, Paragraph 2.2.2.

Appendix: Guidelines on the Practical Aspects of FMI Recovery Plans

The following example provides suggestions on how an FMI recovery plan could be organized.

	Critical Services Identify critical services, following guidance on factors to consider.
	Risks faced by the FMI Identify types of risks the FMI is exposed to.
	Stress Scenarios <ul style="list-style-type: none">❖ For each type of risk, identify stress scenario(s).❖ For each scenario, explain where existing risk management tools have become insufficient to cover losses or liquidity shortfalls, thereby necessitating the use of recovery tools.
	Trigger For each stress scenario, identify the trigger to enter recovery.
	Recovery Tools Provide an assessment of recovery tools, including how each tool will address uncovered losses, liquidity shortfalls and capital inadequacies.
	Structural Weakness <ul style="list-style-type: none">❖ Identify procedures to detect, evaluate and address structural weakness, including underlying issues that must be addressed to ensure the FMI can remain a going concern post-recovery.❖ Structural weakness can be caused by factors such as poor business strategy (including unsuitable cost or fee structures), poor investment or custody policy, poor organizational structure and internal control, and other internal factors unrelated to participant default (see Recovery Report 2.4.11).

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