

EU CCP Recovery and Resolution Regulation

In accordance with our obligations under the EU CCP Recovery and Resolution Regulation (“**CCPR**”)¹, we hereby inform you (i) about how measures in a CCP’s recovery plan may affect you (Article 9(23) CCPR), and (ii) of the potential losses or other costs that you may bear as a result of the application of the default management procedures and loss and position allocation arrangements under the CCP’s operating rules (Article 38(8) of the European Market Infrastructure Regulation (EMIR), which is introduced by Article 87(7) CCPR).

I. CCPR

CCPR establishes a harmonised framework for the recovery and resolution of EU CCPs. CCPR is intended to ensure that both CCPs and their regulators will act decisively in a crisis scenario to keep CCPs providing their critical functions and to limit the impact on the financial system and on public funds.

CCPR comprises the following three pillars:

1. **Preparation**

(a) **Recovery plans**

CCPs are required to prepare recovery plans setting out measures they would take in crisis scenarios to restore their financial soundness and continue providing their critical functions. Recovery plans are not standardised and will likely differ from CCP to CCP. CCP Recovery plans are required to include a comprehensive range of:

- (i) capital actions;
- (ii) loss allocation actions (including recovery cash calls and a reduction in the value of gains payable by the CCP to non-defaulting clearing members);
- (iii) position allocation actions; and
- (iv) liquidity actions,

to maintain or restore the viability and financial soundness of the CCP.

(b) **Resolution plans**

Resolution authorities are required to prepare resolution plans setting out the resolution actions they would take if the CCP were likely to fail, in order to keep the CCP providing its critical functions and to limit the impact on the financial system and on public funds.

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R0023&from=EN>

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(c) **Resolvability**

Where a resolution authority identifies obstacles to the resolvability of a CCP in the course of the planning process, it can also require the CCP to take appropriate measures. These measures may include changes to the CCP's operational or legal structure or to its pre-funded loss-absorbing resources.

2. **Early intervention**

Where a CCP is about to breach its prudential requirements, CCPR gives regulators powers to intervene before the problems become critical and the financial situation deteriorates irreparably. These powers may include requiring a CCP to undertake specific actions envisaged in its recovery plan or to make changes to its business strategy or legal or operational structure.

3. **Resolution**

CCPR gives resolution authorities resolution tools to manage the failure of a CCP in an orderly way and to ensure that essential clearing functions and services are preserved.

Specifically, CCPR envisages the following resolution tools:

- (a) the **position and loss allocation tools**, including:
 - (i) the **tear-up tool**: This resolution tool allows the resolution authority to terminate specific clearing contracts to balance the books of the CCP. In practice, this tool would be used by a resolution authority if a clearing member defaults and its positions cannot be auctioned off. In these circumstances, the resolution authority would terminate corresponding opposing positions to re-balance the CCP's books.
 - (ii) the **variation margin gain haircut (VMGH) tool**: This resolution tool allows the resolution authority to reduce the amount the CCP owes a clearing member in respect of post-resolution variation margin gains due in accordance with the CCP's process for paying variation margin.
- (b) the **write-down and conversion tool**: This resolution tool allows the resolution authority to write down or convert instruments of ownership, debt instruments or other unsecured liabilities of the CCP.
- (c) the **sale of business tool**: This resolution tool allows the resolution authority to sell all or part of the failing CCP to another entity.
- (d) the **bridge CCP tool**: This resolution tool allows the resolution authority to separate out essential functions of a CCP and transfer them to a new CCP (the bridge CCP), which is controlled by the resolution authority.

To apply the resolution tools, resolution authorities are given wide resolution powers, including the power to:

- (a) close out and terminate financial contracts;

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- (b) reduce the amount of variation margin due to a clearing member;
- (c) cancel or modify the terms of a contract with the CCP;
- (d) suspend payment and delivery obligations;
- (e) restrict security interest enforcement; and
- (f) suspend termination rights.

The application of the resolution tools and powers under CCPR is subject to certain safeguards (such as the 'no creditor worse off' principle). CCPR does not apply these safeguards to the recovery plans or default management procedures discussed in Section II below.

II. Impact on you

Provisions introduced under CCPR require us to inform you:

- (a) if and in what way measures in the CCP's recovery plan may affect you; and
- (b) of the potential losses or other costs that you may bear as a result of the application of the default management procedures and loss and position allocation arrangements under a CCP's operating rules.

The measures described below may affect transactions we are clearing for ourselves as well as transactions we are clearing for you. The clearing agreement between us provides that we are only required to perform and pay our obligations to you to the extent a relevant CCP performs and pays its corresponding obligations to us. Therefore, if the measures below are exercised, what we pay or deliver to you may be correspondingly reduced.

In addition to the specific costs and losses set out below, you may incur further costs and losses as a result of any market disruptions ensuing from the financial difficulties of the relevant CCP or its other clearing members (such as increased margin requirements or stressed market circumstances which may adversely impact the value of your transactions).

1. CCP recovery plan measures

As CCPs are not required to make their recovery plans public, we cannot confirm with certainty which measures will be included in each CCP's recovery plan.

However, we expect each CCP's recovery plan to comprise one or more of the following measures, each of which may impact you in the ways outlined in the table below. The appendices to this letter set out details of which of the below measures have been provided for in the rulebook of each CCP we clear at on your behalf. If a measure is provided for in a CCP's rulebook, we would also expect that measure to be included in that CCP's recovery plan.

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Measure	Description	Impact on you
Tear up	<p>A process by which a CCP may terminate a class of contracts in order to rebalance its book. This tool is normally available to CCPs if a clearing member defaults and its positions cannot be auctioned off. The CCP can terminate corresponding positions in whole or part to re-balance the CCP's books. It may also be available following a non-default loss, a force majeure or other emergency.</p> <p>Normally a tear-up will be in the form of a partial tear-up, in which only a portion of each contract of a particular class of contracts will be subject to the tear-up. Generally, this portion will be sized at the minimum level to permit the CCP to rebalance the contracts of that class following the default or other event leading to the tear-up.</p> <p>A partial tear-up may lead to the tear-up of only portions of contracts that have an opposing directional position to contracts in the defaulting clearing member's portfolio or it may lead to the tear-up of portions of contracts that have both an opposing directional position and the same directional position.</p> <p>A tear-up may also be in respect of the entirety of the contracts in a particular class. Such a tear-up will lead to the tear-up of all contracts in the class, regardless of the direction of the position.</p> <p>Typically, a CCP will have broad discretion to determine what constitutes a class of contracts for these purposes.</p> <p>Partial tear-up is to be contrasted with an invoicing back (described below) because it will apply to all the contracts of a particular class of contracts cleared by a CCP (as opposed to only certain contracts identified to offset the defaulted contracts) and so its impact will fall evenly across all equivalent contracts forming part of the same class, although the impact may fall upon only those contracts having an opposing directional position to the defaulted contracts.</p>	<p>If the CCP implements tear-up measures in respect of a contract we are clearing for you, the CCP will terminate the relevant contract (or a portion of it), perform a close-out calculation and pay any positive resulting sum to us or require us to pay any resulting amount to it. In this context, you may incur incidental costs in the process of the closing out of your contracts and you may incur additional costs if you decide to enter into a replacement contract. You may also suffer a loss if the close-out value is different to the value of the closed-out contract recorded in your books.</p> <p>If you decide not to enter into a replacement contract, you will be exposed to the risk of adverse market movements that were previously hedged by the contract.</p>
Invoicing Back	<p>A process by which a CCP may terminate specific contracts in order to rebalance its book. This tool is normally available to CCPs if a clearing member defaults and its positions cannot be auctioned off. The CCP can terminate contracts that have an opposing directional position to re-balance the</p>	<p>If the CCP implements invoicing back measures in respect of a contract we are clearing for you, the CCP will terminate the relevant contract, perform a close-out calculation</p>

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	<p>CCP's books. It may also be available following a non-default loss, a force majeure or other emergency.</p> <p>Invoicing back is to be contrasted with a partial tear-up (described above) because it will apply to some, but not all the contracts of a particular class of contracts cleared by a CCP (as opposed to portions of all those contracts in the same class as the defaulted contracts) and so its impact may not fall evenly across all clearing members holding equivalent contracts forming part of the same class. Unlike partial tear-up, which may apply to contracts having different directional positions, invoicing back will only apply to contracts having a corresponding opposing directional position to the defaulted contracts.</p>	<p>and pay any positive resulting sum to us or require us to pay any resulting amount to it (although a requirement to pay the CCP is significantly less likely in an invoicing back). In this context, you may incur incidental costs in the process of the closing out of your contracts and you may incur additional costs if you decide to enter into a replacement contract.</p> <p>You may also suffer a loss if the close-out value is different to the value of the closed-out contract recorded in your books.</p> <p>If you decide not to enter into a replacement contract, you will be exposed to the risk of adverse market movements that were previously hedged by the contract.</p>
Forced allocation	<p>A process by which a CCP may require a clearing member to enter into a contract at a price and on terms specified by the CCP in order to rebalance its book.</p> <p>Similar to invoicing back, this tool is normally available to CCPs if a clearing member defaults and its positions cannot be auctioned off.</p> <p>In the case of forced allocation, the CCP will divide up the unsold portfolio of the defaulted clearing member and allocate portions of such portfolio to the remaining non-defaulting clearing members. In most cases, the CCP has ultimate discretion to determine which clearing members are allocated such trades and the price at which the portfolio is allocated. This tool may also be available following a non-default loss, a force majeure or other emergency.</p>	<p>If the CCP implements forced allocation measures in respect of a category of contracts we clear on your behalf, we may allocate certain of the contracts we are required to enter into to your client account. Following the allocation of such contracts to your client account, related back-to-back contracts will automatically arise between you and us and you will be required to perform payment and margining obligations in respect of such related back-to-back contracts.</p>
Variation Margin Gains Haircutting (VMGH) measures	<p>VMGH is used to reduce the amount of variation margin a CCP is required to transfer to non-defaulting clearing members where such obligation arises from a move in the mark-to-market value of a contract in favour of the clearing member after the CCP triggers a default process.</p> <p>Different drafting may be used to achieve this effect, for example, there may be a permanent</p>	<p>If the CCP implements VMGH measures in respect of any variation margin to be transferred in respect of your contracts, we will pass the impact of any reduction in such variation margin on to you. This may result in you not receiving any variation margin</p>

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	reduction in the variation margin obligation that affects the value of the affected contract or an additional payment obligation may arise in favour of the CCP under the affected contract that has the effect of reducing the CCP's variation margin obligation.	in respect of any increase in the mark-to-market value of such contracts in your favour. This may mean that you do not obtain the full value that would otherwise accrue to your affected contracts that would have arisen from market movements after the default and, to the extent that you hold an opposite position in relation to any asset or liability that was hedged by the affected contract, you may face a loss on that position.
Assessments	Assessments are additional contributions to the default fund, which the CCP may call upon a non-defaulting clearing member to make during the default management process in order to ensure that it has sufficient resources to enable the CCP to manage the default of one or more clearing members. Assessments are amounts called for in addition to default fund contributions already made by clearing members. They will only be called for during a default management process and should be differentiated from replenishments, which the CCP will call to restore the default fund to its steady state following the end of the default management process.	If the CCP calls us for an assessment as part of a default management process, we may call for an amount equal to a portion of such assessment from you. The amount we will call for shall represent the portion of the portfolio of contracts we clear at the CCP which comprises contracts we clear on your behalf.
Changes to Margin Criteria	A CCP may have discretion under its rulebook to amend the criteria used to determine the quantum of margin calls (whether variation margin or initial margin), the timing of such margin calls and the assets it will accept as eligible collateral.	If the CCP amends its margin criteria such that the type or amount of variation margin or initial margin we are required to transfer in respect of your contracts, or the timing on which we are required to make such transfer, changes, we will pass the impact of such changes onto you. This may result in you having to post additional margin in respect of your contracts, no longer being able to transfer certain assets as eligible collateral or us changing the deadline by which you must transfer margin to us on each business day.
Contingent Variation Margin	In certain situations (e.g. following the default of a clearing member), in order to preserve its cashflow, the CCP may credit a clearing member with an entitlement to variation margin (e.g. by way of a credit to their account) whilst, at the same	We will only transfer an amount of variation margin to you equal to the amount of variation margin we receive from the CCP in respect of the

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	<p>time, restricting payment of such variation margin to the clearing member or withdrawal of amounts credited to its account by the clearing member. In the future, the clearing member may be able to use this contingent variation margin credit in settlement of an obligation to post variation margin (and so the clearing member will not need to transfer variation margin to satisfy such obligation).</p>	<p>contracts we clear on your behalf. Therefore, if the CCP implements contingent variation margin measures in respect of any variation margin to be transferred in respect of your contracts, you may not receive the full amount of variation margin due in respect of those contracts at the time such transfer is due. However, you will be credited with an entitlement to such variation margin which you may use against your variation margin obligations in the future (rather than transferring additional variation margin).</p>
Emergency Powers	<p>In emergency conditions (such as market disruption, war, force majeure or following governmental or regulatory action), a CCP may have additional powers to amend its rulebook or require clearing members to take certain actions with regard to the performance of each clearing member's contracts. Such emergency powers may include Tear ups, Invoicing Back, Contingent Variation Margin and Forced Allocation (each as described above). The CCP may also elect to close one or more of its services and terminate all outstanding contracts cleared at that service.</p>	<p>See further above as to the impact of Tear ups, Invoicing Back, Contingent Variation Margin and Forced Allocation and below as to the impact of a service closure. In addition, if the CCP's exercise of emergency powers impacts the terms of any contracts we clear on your behalf or the amount of margin we are required to transfer to the CCP on your behalf or the CCP is required to transfer to us in respect of your contracts, we will pass the impact of such changes onto you. This may result in an amendment to the terms of your contracts, the close-out of contracts to which you are party, an increase in the amount of margin you are required to transfer or a decrease in the amount of margin you may receive.</p> <p>If a contract to which you are party is closed out, you may incur incidental costs in the process of the closing out of such contract and you may incur additional costs if you decide to enter into a replacement contract at another CCP. You may also suffer a loss if the close-out value is different to the value of</p>

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		<p>the closed-out contract recorded in your books. If you decide not to enter into a replacement contract, you will be exposed to the risk of adverse market movements that were previously hedged by the contract.</p> <p>If you receive less margin in respect of a contract we clear on your behalf, this may mean that you do not obtain the full value that would otherwise accrue to such contract as a result of market movements and, to the extent that you hold an opposite position in relation to any asset or liability that was hedged by the affected contract, you may face a loss on that position.</p>
Service Closure	The CCP may elect to close one or more of its services and terminate all outstanding contracts cleared at that service.	<p>If the CCP closes a service at which we are clearing contracts for you, the CCP will terminate the relevant contracts, perform a close-out calculation and pay any positive resulting sum to us or require us to pay any resulting amount to it. In this context, you may incur incidental costs in the process of the closing out of your contracts and you may incur additional costs if you decide to enter into a replacement contract at another CCP.</p> <p>You may also suffer a loss if the close-out value is different to the value of the closed-out contract recorded in your books.</p> <p>If you decide not to enter into a replacement contract, you will be exposed to the risk of adverse market movements that were previously hedged by the contract.</p> <p>Due to the closure of the relevant service, it also may</p>

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		not be possible to enter into replacement contracts.
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Please see further the Appendices to this letter for details as to which of these measures are included in the rulebook of the relevant CCPs at which we clear on your behalf.

2. Default management procedures

In summary², if a clearing member is declared to be in default under a CCP's default management procedures, the CCP will usually try to transfer (port) transactions and assets related to the clients of that clearing member to another clearing member. If porting cannot be achieved, the CCP will terminate the transactions related to the clients of that clearing member and perform a close-out calculation in respect of them. If there is an amount owed by the CCP, the CCP may pay such amount directly to such clients subject to certain conditions, including if it knows their identity. If the CCP does not pay directly to such clients, it will pay such amount to the defaulting clearing member (or its insolvency practitioner) for the account of the clearing member's clients.

If we are declared to be in default, you may incur costs and losses, the most relevant of which we expect to be the following:

- (a) If your transactions and assets are ported, you may incur incidental costs for transferring your positions and assets to another clearing broker.
- (b) If your transactions are terminated and the resulting sum is paid directly to you, you may incur incidental costs in the process of the closing out of your contracts. You may also suffer a loss if the close-out value is different to the value of the closed-out contract recorded in your books. Further, you may incur additional costs if you decide to enter into replacement transactions and if you decide not to (or cannot) enter into a replacement contract, you will be exposed to the risk of adverse market movements that were previously hedged by the contract.
- (c) If your transactions are terminated and the resulting sum is paid to us, you may incur the costs and losses described in the paragraph above and additional losses resulting from our insolvency (which are explained in more detail in Part One C of the FIA Clearing Member Disclosure Document).

If another clearing member is declared to be in default, the CCP will terminate any outstanding transactions of that clearing member. Any losses suffered by the CCP in respect of those transactions will be allocated amongst the CCP and its members in accordance with its loss and position allocation tools. The CCP may also seek to reduce those losses through the application of certain other measures provided for in its rulebook.

As part of such loss allocation and reduction tools, the CCP may apply default contributions provided by its clearing members against losses it incurs in respect of any transactions it has entered into with the defaulting clearing member. To the extent any default fund contributions we have made in respect of transactions we clear

² Please refer to the EMIR and MiFIR Clearing Member Disclosure J.P. Morgan SE for a more detailed description of a CCP's default management procedures.

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on your behalf are applied to reduce such losses, we may pass on the amount by which such default fund contributions are reduced to you under the client clearing agreement between us.

Such loss allocation and reduction tools may also include the following, each of which will impact you in the manner described under “CCP recovery plan measures” above:

- (a) assessments;
- (b) tear up;
- (c) invoicing back;
- (d) forced allocation;
- (e) variation margin gains haircutting (VMGH) measures;
- (f) changes to margin criteria;
- (g) service closure;
- (h) contingent variation margin; and
- (i) use of emergency powers.

Please see further the Appendices to this letter for details as to which of these measures are included in the rulebook of the relevant CCPs at which we clear on your behalf.

III. Disclaimer

Recovery plans are not public and clearing members have to rely on voluntary disclosures by CCPs and the provisions of CCPs’ rulebooks. Additionally, CCPs may take actions which are not reflected in the information they have provided. Therefore, there may be other ways in which a CCP’s recovery plan may impact you which are not reflected in this notification.

The information in this notification is based on the general provisions of CCPR and EMIR, as well as the information publicly available on CCPs’ websites (including in the rulebooks of those CCPs).

This notification may be updated from time to time to reflect regulatory guidance and the appendices hereto may be updated as CCPs update their rulebooks or disclose information about their recovery plans. However, we are under no obligation to keep the disclosure contained in this notification up to date at all times and there may therefore be some delay between a CCP updating its rulebook, or disclosure relating thereto, and consequential updates being made to the disclosure in this notification. Clients are therefore advised to consult the latest version of the relevant CCP’s rulebook, in addition to the latest version of this notification and the appendices.

This notification does not constitute legal or any other form of advice and must not be relied on as such. This notification provides a high-level overview of a complex and new area of law, the effect of which will vary

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depending on the specific facts of any particular case. You and, where applicable, your clients may wish to appoint independent professional advisors to advise you on this.

This notification is not an exhaustive information document, please also refer to other disclosure documents on other aspects of CCPR and EMIR.

If you have questions in the meantime, please contact your usual relationship manager.

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Appendix 1 to - BME Clearing, S.A.U

Version 1.0

March 2023

This Appendix sets out the recovery and default tools available to, or that may be applied to, BME Clearing S.A.U (“**BME**”) in a recovery and resolution scenario as set out in the BME Central Counterparty Rulebook effective from 12 February 2023 (the “**Rulebook**”) and certain other documentation published by BME referred to in this Appendix.

* indicates that while this measure is not specifically contemplated in the Rulebook, it is likely to be available to BME by virtue of its general powers.

Measure	Contemplated in Rulebook	Rulebook Reference	Additional Comments
Tear-up	x*	n/a	n/a
Invoicing Back	x*	n/a	n/a
Forced Allocation	x*	n/a	n/a
Variation Margin Gains Haircutting (VMGH)	x*	n/a	n/a
Assessments	✓	Articles 29(5)(F), 45(8)(C)(7) and 55(1) of the Rulebook and Condition 1.14 of the General Conditions ³ .	Although the BME rulebook does not explicitly provide for assessments, a clearing member may be required to provide additional contribution amounts to ensure the continuity of the service. A resolution authority may call a clearing member for a cash contribution of an amount equal to up to twice its contribution to the default. A failure to meet the required amount may result in the member being declared in default.

³ BME Central Counterparty General Conditions, Financial Derivatives Segment dated 3 June 2021 and effective from 1 July 2021 (“**General Conditions**”).

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Changes to Margin Criteria	✓	CPMI-IOSCO Self-Assessment 2020 (Q6.7.2); Articles 2(5) and 29(4) of the Rulebook; and Financial Derivatives General Conditions, Circular C GEN 12/2022 (<i>Valuation of Securities posted as Margins</i>).	-
Contingent Variation Margin	x*	n/a	n/a
Emergency Powers	✓	Article 2(5) of the Rulebook	In an emergency situation, BME has broad powers to amend its rules without notice. This means that BME could in practice adopt any of the measures outlined above which are not specifically provided for explicitly in the Rulebook.
Service Closure	✓	Article 45.8(C)(10) of the Rulebook	-

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Appendix 2– Euronext Clearing

Version 1.0

March 2023

This Appendix sets out the recovery and default tools available to, or that may be applied to, Cassa di Compensazione e Garanzia S.p.A. (“**CC&G**”), trading under the name Euronext Clearing, in a recovery and resolution scenario as set out in the Cassa di Compensazione e Garanzia Regulations dated 12 February 2023 (the “**Rulebook**”) and certain other documentation published by CC&G referred to in this Appendix.

Measure	Contemplated in Rulebook	Rulebook Reference	Additional Comments
Tear-up	x	n/a	n/a
Invoicing Back	x	n/a	n/a
Forced Allocation	✓	Article B.6.2.1 of the Rulebook.	Forced allocation is only applicable in respect of agricultural commodity derivatives (and, in the case of severe market illiquidity, single stock dividend futures and futures on the FTSE MIB dividend index).
Variation Margin Gains Haircutting (VMGH)	✓	Article B.7.1.1(2)(iii) of the Rulebook.	This power is only available after CC&G has determined to close a clearing service.
Assessments	✓	Articles B.4.2.5 and B.6.2.3.1 of the Rulebook.	There is a cap on the amount of assessments that may be called.
Changes to Margin Criteria	✓	Articles B.4.1.3 and B.4.1.1.7 of the Rulebook and Condition 7.3 of General Conditions I.	Urgent changes to the margin criteria may be made on 5 calendar days’ notice.
Contingent Variation Margin	x	n/a	n/a
Emergency Powers	✓	Condition 7.3 of the General Conditions I. A.1.1.3.5, Regulations	In an emergency situation, CC&G has broad powers to amend its rules or take action on little or no notice. This means that CC&G could in

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			practice adopt any of the measures outlined above which are not specifically provided for explicitly in the Rulebook.
Service Closure	✓	Article B.7.1.1 of the Rulebook.	

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Appendix 3– Eurex Clearing

Version 1.0

March 2023

This Appendix sets out the recovery and default tools available to, or that may be applied to, Eurex Clearing AG (“**Eurex**”) in a recovery and resolution scenario as set out in the Clearing Conditions of Eurex Clearing AG as published on 12 February 2023 (the “**Rulebook**”) and certain other documentation published by Eurex referred to in this Appendix.

* indicates that while this measure is not specifically contemplated in the Rulebook, it is likely to be available to Eurex in certain circumstances by virtue of its general powers.

Measure	Contemplated in Rulebook	Rulebook Reference	Additional Comments
Tear-up	✓	Chapter I Part 1, Conditions 7.5.4.1, 7.5.4.3, 17.7.2(2)(a) and 17.7.2(b)(i) and (iii).	Eurex or the resolution authority may terminate transactions with opposite directional positions to those of the defaulting clearing member. Eurex or the resolution authority may also terminate all transactions within a liquidation group on the occurrence of a clearing member default where the resources available to Eurex are not sufficient to cover its losses.
Invoicing Back	✓	Chapter I Part 1, Conditions 13.3.1 and 13.3.3.	Eurex may establish opposite corresponding transactions with respect to transactions affected by a force majeure event, market disorder event or an impossibility event.
Forced Allocation	x*		-
Variation Margin Gains Haircutting (VMGH)	✓	Chapter I, Part 1, 17.7.2(3).	-
Assessments	✓	Chapter I Part 1, Conditions 6.3.1 and 17.7.2(4).	There is a cap on the amount of assessments that may be called

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Changes to Margin Criteria	✓	Chapter I Part 1 Conditions 1.6.3 (b), 3.2.1, 3.2.4, 3.2.5 and 16.1.	
Contingent Variation Margin	x*	n/a	n/a
Emergency Powers	✓	Chapter I, Part 1, Condition 13.3.1(2)(ii) and 17.3.1(2) Chapter VIII, Part 1, Condition 1.5	Eurex has broad powers to take any action or amend the rulebook following a market disorder event, impossibility event or force majeure event and to pass emergency resolutions in the event of extraordinary market conditions. This means that Eurex could in practice adopt any of the measures outlined above which are not specifically provided for explicitly in the Rulebook.
Service Closure	✓	Chapter I, Part 1, Condition 13.3.1(3).	Eurex may suspend clearing services following a market disruption event, force majeure event or impossibility event.

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Appendix 4– LCH SA

Version 1.0

March 2023.

This Appendix sets out the recovery and default tools available to, or that may be applied to, LCH SA (“**LCH**”) in a recovery and resolution scenario as set out in the LCH SA Clearing Rulebook published on 10 February 2023 (the “**Rulebook**”), the LCH SA CDS Clearing Rulebook dated 11 May 2022 (the “**CDS Rulebook**”) and certain other documentation published by LCH referred to in this Appendix.

* indicates that while this measure is not specifically contemplated in the Rulebook and/or the CDS Rulebook, subject to anything in the below table to the contrary, it is likely to be available to LCH by virtue of its general powers.

Measure	Contemplated in Rulebook	Rulebook Reference	Additional Comments
Tear-up	x*	n/a	n/a
Invoicing Back	x*	n/a	n/a
Forced Allocation	x*	n/a	n/a
Variation Margin Gains Haircutting (VMGH)	CDS Rulebook only*	Appendix 1, Clause 7, CDS Rulebook	-
Assessments	✓	Article 17 of Instruction IV.3-1 Section 6.6 of the Procedures relating to the CDS Rulebook	There is a cap on the amount, and number, of assessments that may be called.
Changes to Margin Criteria	✓	Articles 4.2.03 and 4.2.0.4 of the Rulebook and Articles 8, 13, 20 and 48 of Instruction IV. 4-1. Articles 4.2.1.2, 4.2.6.1 and 4.2.6.4 of the CDS Rulebook.	LCH has broad powers to amend its margin criteria, including the amount of margin it calls for, what constitutes eligible margin and haircuts applicable to margin.
Contingent Variation Margin	x*	n/a	n/a

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Emergency Powers	✓	<p>Article 1.3.3.13 of the Rulebook</p> <p>Article 5, Instruction I.2-1</p> <p>Paragraph 5.2 of the Clearing Agreement</p> <p>Article 1.2.2.4 of the CDS Rulebook</p>	<p>In an emergency situation, LCH may take various measures (including amending its rules) on little or no notice. This means that LCH could in practice adopt any of the measures outlined above which are not specifically provided for explicitly in the Rulebook.</p>
Service Closure	✓	<p>Article 1.6.1.1 of the Rulebook, Article 7 of Instruction IV.5-3 and Article 7 of Instruction IV.5-5.</p> <p>Section 2.4.3 of the CDS Rulebook</p>	-

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Appendix 5– Nasdaq Clearing AB

Version 1.0

March 2023

This Appendix sets out the recovery and default tools available to, or that may be applied to, Nasdaq Clearing AB (“**Nasdaq**”) in a recovery and resolution scenario as set out in the Clearing Rules of Nasdaq Derivatives Markets (the “**Rulebook**”) and certain other documentation published by Nasdaq referred to in this Appendix.

* indicates that while this measures is not specifically contemplated in the Rulebook, it is likely to be available to Nasdaq by virtue of its general powers.

Measure	Contemplated in Rulebook	Rulebook Reference	Additional Comments
Tear-up	✓	Schedule 2 to Appendix 16 of the Rulebook.	Tear-up may be applied in both directions (i.e. tear-up may be applied to portions of contracts that have both an opposing directional position and the same directional position to contracts in the defaulting clearing member’s portfolio).
Invoicing Back	x*	n/a	n/a
Forced Allocation	x*	n/a	n/a
Variation Margin Gains Haircutting (VMGH)	x*	n/a	n/a
Assessments	✓	Articles 1.9A.26 -28 of Appendix 16 of the Rulebook.	There is a cap on the amount of assessments that may be called.
Changes to Margin Criteria	✓	Articles 2.8.2a, 2.8.14, 2.8.16 and 2.8.17 of the Rulebook	-
Contingent Variation Margin	x*	n/a	n/a
Emergency Powers	✓	Articles 1.17.1 and 1.19 of the Rulebook.	In an emergency situation, Nasdaq may take various measures (including amending its rules) without notice. This means that Nasdaq could in practice adopt any of the

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			measures outlined above which are not specifically provided for explicitly in the Rulebook.
Service Closure	✓	Schedule 4 of Appendix 16 of the Rulebook.	-

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Appendix 6 – European Commodity Clearing AG

Version 1.0

May 2023

This Appendix sets out the recovery and default tools available to, or that may be applied to, European Commodity Clearing AG (“**ECC**”) in a recovery and resolution scenario as set out in the Clearing Conditions of European Commodity Clearing effective from 8 May 2023 (the “**Rulebook**”) and the guide published by ECC entitled “Impact of Recovery and Resolution Tools on Members and Clients” effective from 19 December 2022 (the “**Recovery Guide**”).

* indicates that while this measure is not specifically contemplated in the Rulebook, it is likely to be available to ECC by virtue of its general powers.

Measure	Contemplated in Rulebook or Recovery Guide	Rulebook Reference	Additional Comments
Tear-up	✓	Section 3.11.9 of the Rulebook.	ECC may effect a “Partial Tear-Up” of remaining opposing positions held by a non-defaulting Clearing Member after at least one voluntary auction has been held and was insufficient to close out all positions in the default portfolio.
Invoicing Back	x*	n/a	n/a
Forced Allocation	✓	Sections 3.11 and 3.11.8 of the Rulebook.	ECC may hold mandatory auctions if at least one voluntary auction has been held and was insufficient to sufficiently reduce the risk in the default portfolio. ECC may also apply Forced Allocation in respect of remaining open positions after at least one voluntary and one mandatory auction has been held.
Variation Margin Gains Haircutting (VMGH)	x*	n/a	n/a
Assessments	✓	Sections 3.4.6.2(3) and 3.7.4 of the Rulebook.	-

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Changes to Margin Criteria	✓	Sections 3.4.6.1(1) and 3.4.7(1) of the Rulebook.	
Contingent Variation Margin	x*	n/a	n/a
Emergency Powers	✓	Section 3.3.11 of the Rulebook.	In certain emergency scenarios, ECC has broad powers to take all appropriate and necessary measures to ensure orderly clearing. This means that ECC could in practice adopt any of the measures outlined above which are not specifically provided for in the Rulebook.
Service Closure	x*	n/a	n/a