Annual peer review of EU CCP supervision

2020 EMIR Peer Review on CCPs' liquidity stress testing

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Acronyms used

CCP	Central Counterparty
EMIR	Regulation (EU) 648/2012 of the European Parliament and Council on OTC derivatives, central counterparties and trade repositories
ESMA	The European Securities and Markets Authority
NCA	National Competent Authority
Q&A	Question and Answer
RTS	Regulatory Technical Standards
RTS on CCPs	Commission Delegated Regulation (EU) No 153/2013 supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council with regard to regulatory technical standards on requirements for central counterparties
GMRA	Global Master Repurchase Agreement

1 Executive Summary

Reasons for publication

The European Securities and Markets Authority (ESMA) is publishing this report pursuant to Article 24a of Regulation (EU) No 648/2012 (EMIR) which provides that in the area of central counterparties (CCP) supervision ESMA shall, at least annually, conduct a peer review analysis of the supervisory activities of all competent authorities in relation to the authorisation and the supervision of central counterparties (CCPs) in accordance with Article 30 of Regulation (EU) No 1095/2010 (ESMA Regulation).

Contents

This peer review assesses the overall functioning of CCP colleges and provides an in-depth analysis of supervisory activities of National Competent Authorities (NCAs) on CCPs with respect to requirements set out in EMIR related to CCPs' liquidity stress testing.

This peer review is based on a specific methodology developed for mandatory peer reviews under EMIR. The review was conducted by ESMA staff relying on their experience through participation in CCP colleges and the responses by the NCAs to a predefined questionnaire and, where relevant, tailored follow-up questions. The questionnaire and the findings of the peer review were discussed and agreed by the CCP Supervisory Committee of ESMA.

Accordingly, this report provides an overview of the approaches followed by NCAs and presents ESMA's assessment of the degree of convergence reached by NCAs. In particular, the report highlights best practices that emerged from the NCAs' responses, and it identifies some considerations in order to further enhance supervisory practices.

Next Steps

This report is for information purposes only. ESMA will follow up on the findings listed in this report in order to identify, where relevant, the most appropriate tools to further enhance supervisory convergence with respect to the considerations included in this report.

2 Introduction

1. Article 24a(7)(a) of Regulation EU No 648/2012 (EMIR) requires ESMA to conduct at least annually a peer review analysis of the supervisory activities of all competent authorities in relation to the authorisation and the supervision of CCPs in accordance with Article 30 of Regulation (EU) No 195/2010 (ESMA Regulation).

2. On 14 December 2016, the ESMA Board of Supervisors approved the methodology for mandatory Peer Reviews in relation to CCPs' authorisation and supervision under EMIR (the methodology)[1], whereby the review is conducted by ESMA staff. Each peer review will assess the overall functioning of CCP colleges and provide an in-depth analysis of a specific topic, to be determined within the scope set by EMIR.

3. In line with the methodology, on 30 January 2019, the Board of Supervisors endorsed the Post Trading Standing Committee (PTSC) proposal for the topic of the 2019 Peer Review to be the EMIR requirements on CCPs' liquidity stress testing (as included in the 2019 Supervisory Convergence Work Program). However, following a reprioritisation of ESMA work program, this peer review was postponed. In March 2020, the CCP Supervisory Committee (which took over this task from the PTSC) confirmed this topic for the 2020 peer review (as noted in the 2021-2022 Peer Review Work Plan adopted by the Board of Supervisors in August 2020).

4. In particular, this peer review aimed to assess the effectiveness of supervisory practices put in place by competent authorities to assess CCP compliance with the provisions of Article 44 (Liquidity risk controls) and related RTS (namely Articles 32(4 and 5), 48, 51, 54, 56 and 59 of RTS 153/2013 on requirements for CCPs). The review also assessed whether competent authorities in doing so are complying with the relevant general principles and criteria agreed at ESMA e.g. via EMIR Q&A, ESMA Guidelines and Recommendations (e.g. the 2014 Guidelines and Recommendation on the CPMI-IOSCO PFMI), or best practices, and in particular with ESMA opinion on CCP Liquidity Risk Assessment under Article 44(1) of EMIR of 2018.[2]

5. The Peer Review covered the relevant National Competent Authorities (NCAs) of CCPs authorised under EMIR as of 1 July 2020. On this date, 16 CCPs were authorised under EMIR in the EU. The Peer Review thus was intended to cover the NCAs of the 12 Member States where the above mentioned 16 CCPs are established, namely: DE, EL, ES, FR, IT, HU, NL, AT, PL, PT, SE and UK. However, the NCAs of the latter two Members States were finally excluded from the current peer review because of the following reasons:

    a. the UK NCA (Bank of England) did not provide its response to the peer review questionnaire, noting that the publication of the peer review report was planned after the end of the BREXIT transitional period and, therefore, arguing that UK NCA and CCPs should not be in scope;

    b. The SE NCA (Finansinspektionen) provided only a high-level response to the peer review questionnaire, noting that during the reporting period the NCA's supervisory activities focused on other supervisory priorities than liquidity risks (e.g. following up to the September default at NASDAQ Clearing), while

[1] See ESMA71-1154262120-155, as published on ESMA website on 05 January 2017.
[2] See ESMA70-151-1149_opinion_on_ccp_liquidity_risk_assessment.pdf as published on ESMA website on 22 June 2018.

stressing that a comprehensive review of the CCP liquidity stress testing framework is planned in 2021 in relation to a scheduled validation of upcoming significant changes to the CCP liquidity risk controls.

6. The Peer Review considered the NCAs' supervisory activities conducted from July 2018 to June 2020 (the reporting period), with respect to the assessment of a CCP's compliance with the requirements on liquidity stress testing in Articles 44 EMIR and related RTS, in connection with:

   a) The yearly review (performed during this period) of the CCP's compliance with the requirements in the scope of the current peer review, pursuant to Article 21 of EMIR[3];

   b) Where relevant, the Risk Assessment Report (performed during this period) in connection to an extension of the authorisation under Article 15 of EMIR or the validation of significant changes to risk models and parameters (performed during this period) under Article 49 of EMIR, i.e. where the introduction of new products and services or model changes implied a review of the CCP's liquidity stress testing.

7. While the overall functioning of CCP colleges has been assessed on the basis of ESMA staff's experience in the participation in CCP colleges, in line with the methodology, the CCP Supervisory Committee also developed a self-assessment questionnaire (the questionnaire – see Annex 1). This provided ESMA staff with detailed information on each NCA's supervisory activities, practices and approaches related to the assessment of CCPs' liquidity stress testing.

8. On 7 August 2020, the covered NCAs were invited to answer the questionnaire by 16 October 2020. Where a Member State had assigned several NCAs under Article 22 of EMIR, the authorities from this Member State coordinated a single response to the questionnaire representing the coordinated view of all relevant competent authorities in that Member State.

9. Many answers to the questionnaire were very thorough and provided evidence of the supervisory actions. Only in few cases ESMA had to send some follow-up questions to some NCAs, which were promptly addressed.

10. The findings of the peer review are presented in this report, which does not intend to provide an exhaustive representation of all responses submitted by the NCAs, but to provide an overview of the approaches followed by the majority of NCAs. The report is intended to highlight any emerging divergences in an effort to identify potential opportunities for further supervisory convergence, best practices and, where applicable, identify possible cases of non-compliance. Section 3 assesses the overall functioning of CCP colleges. Section 4 presents a general overview of NCAs' supervisory activities conducted in the reporting period with respect to liquidity stress testing and organisational set-up. Section 5 presents the outcome of the peer review of specific supervisory activities on liquidity stress testing. Section 6 summarises the conclusions drawn from this peer review.

[3] Pursuant to Article 21 of EMIR, the review shall address the arrangements, strategies, processes and mechanisms implemented by the CCPs to comply with EMIR, cover all EMIR requirements, be updated at least on an annual basis and include on-site inspections.

3 Overall functioning of CCP colleges

11. The review of the functioning of the colleges during the reporting period remains positive. In particular, ESMA appreciated the efforts of chairing NCAs to meet the expectations and best practices highlighted in past peer reviews and to update the colleges on the recent market developments related to the COVID-19 crises.

12. Overall, chairing NCAs continue to manage CCP colleges in compliance with EMIR:

    a. All colleges held at least one meeting each year, where the NCAs reported on their annual review under Article 21, the outcome of their supervisory activities and their next supervisory workplan. Given the restrictions adopted in several countries across the Union in relation to the COVID-19, college meetings in 2020 were organised via videoconferences; in some cases. they were rescheduled towards the end of 2020, not always within12 months from the previous meeting, which under the current circumstances is not a concern.

    b. College meetings included a dedicated session with the participation of the CCP, focusing on ongoing developments, upcoming strategic initiatives and projects, and where relevant selected issues of focus and updates, e.g. CCP's responses to supervisory feedback. In particular, most recent college meetings had a dedicated session on the impact of the COVID-19 crisis to the activity, organisation, business and risk management of the CCP.

    c. The chairing NCAs tested the colleges' communication procedures for emergency situations, through simple reachability and connectivity tests.

    d. Regarding the annual review of the composition of CCP colleges, ESMA noted that in 2020 some chairing authorities have not yet reviewed the composition of their college(s), pending the implementation of some structural changes related to the amendments to Article 18 of EMIR and the end of the BREXIT transition period. ESMA expect that all chairing authorities will promptly review in Q1 2021 the composition of the colleges and their written agreement in order to reflect the amendments to Article 18 the EMIR and the related RTS on the functioning of CCP Colleges (Commission Delegated Regulation 876/2013).

13. Concerning the CCPs' initiatives for new services and activities or changes to risk models and parameters, the chairing NCAs have more systematically applied the framework developed by ESMA for the identification of new services and activities requiring an extension of the authorisation pursuant to Article 15 of EMIR or significant changes for the purpose of Article 49 of EMIR (see ESMA Opinion[4] published on 15 November 2016) and ensured a timely process for adopting the related college opinion.

14. Finally, with respect to the ESMA initiative to propose each year a coordinated focus area for NCAs to address in their supervisory activities, ESMA understands that the delays in the finalisation of the European Regulation on CCP Recovery and Resolution have slowed down the CCPs' and NCAs' activities on CCP recovery plans (i.e. the coordinated focus area for the 2018-2019 supervisory cycle), although some NCAs provided CCP colleges with an update on the CCPs' recovery plan annual review on the occasion of the annual meeting.

[4] See https://www.esma.europa.eu/sites/default/files/library/2016-1574_-_opinion_on_significant_changes_for_ccps.pdf

4 General overview of NCAs' activities in relation to liquidity stress testing

15. EMIR requires NCAs to assess and review the compliance of CCPs with the EMIR requirements, including those on liquidity stress testing, under 1) Article 17(4) with respect to authorisations provided under Article 15, 2) Article 49 with respect to the validation of significant changes to risk model and parameters, and 3) Article 21 with respect to regular reviews under on-going supervision, including at least an annual review. The NCAs were asked to provide responses to a number of questions on their supervisory approach and practices with respect to the above supervisory activities, as well as on their organisational set-up.

16. The overview of the responses describing the supervisory practices of different NCAs is provided here separately for each type of activities. Overall, NCAs reported they systematically review the CCP's liquidity stress testing through the annual review under Article 21 of EMIR and, where relevant, in the context of formal authorisation under Article 15 of EMIR or validation of significant changes under Article 49 of EMIR.

Annual review under EMIR Article 21

17. All NCAs reported that they included the review of the CCPs liquidity stress testing in the scope of the annual reviews under Article 21 of EMIR conducted within the reporting period (most commonly both in 2018 and 2019).

18. In particular, three NCAs referred to specific supervisory activities on the CCPs' compliance with Article 44, as input to the annual review under Article 21. Three NCAs conducted dedicated on-site inspections on liquidity risk matters (three covered general or specific aspect of the liquidity risk management framework, a fourth one the audit of liquidity risk). Two other NCAs reported also about regular meetings or on-site visits on liquidity risks topics (e.g. with respect to the findings from the ESMA stress tests). Other four NCAs referred to desk-based review of the CCP's liquidity risk profile and liquidity risk management framework, including liquidity stress tests.

Extension of Authorisation under EMIR Article 15

19. Four extensions of authorisation were granted under EMIR Article 15 during the reporting period. One NCA explicitly reported that they assessed relevant implications on liquidity stress testing in the context of the risk assessment produced for the extension of the authorisation.

Validation of Significant Changes under EMIR Article 49.

20. Only one NCA reported that they validated significant changes to risk models and parameters under Article 49 of EMIR affecting the CCPs' liquidity stress testing. Another NCA pointed to an ongoing validation of a significant change related to a CCP's liquidity stress testing.

Other Supervisory Activities, including reviews of other non-significant changes

21. Two NCAs reported to have reviewed ad hoc other non-significant changes to the liquidity stress testing, including the addition of new scenarios in relation of new products covered by the current authorisation, and some improvements to the CCP liquidity plan as follow-up to supervisory observations.

22. Finally, three NCAs also reported having conducted specific reviews on liquidity stress testing, in some cases in the context of follow-up work on past ESMA stress tests and the previous peer reviews on collateral and funding arrangements – besides the usual monitoring activities*.*

5 Review of NCAs' supervisory practices on CCP liquidity stress testing

23. This section reflects the level of details provided by the NCAs in their answers to the targeted set of questions in the peer review questionnaire aimed to determine which supervisory activities are most performed to assess the liquidity stress testing.

24. Article 44 (Liquidity risk controls) of EMIR and related RTS (namely Articles32(4 and 5), 48, 51, 54, 56 and 59 of RTS 153/2013 on requirements for CCPs) set out the liquidity risk controls and stress testing requirements of the liquidity risk management framework.

25. This section presents current practices on how the NCAs get satisfied of the CCPs' implementation of the stress testing requirements of the liquidity risk management framework and of the CCP liquidity risk controls.

26. It will also assess whether competent authorities' practices are complying with relevant provisions in the CPMI-IOSCO PFMI and with ESMA opinion on CCP Liquidity Risk Assessment under Article 44(1) of EMIR of 2018.

5.1 Overview of NCAs' practices

Issue 1. Review of the liquidity stress testing scenarios

27. The NCAs were invited to describe the criteria and conditions they use to assess that the liquidity stress test scenarios satisfy the requirement of RTS Art 32, 48, 51 and 54.

<u>Liquidity Risk Cover 2</u>

28. Authorities were asked to detail how a CCP demonstrates that it takes into account the liquidity risk generated by the default of at least the two clearing members to which it has its largest exposures. (Liquidity risk 'Cover-2')

29. Most NCAs answered that they first require the methodology to be properly documented by establishing for example a liquidity risk management framework demonstrating that the CCP is able to effect payment and settlement obligations as they fall due both under ordinary operational and stressed conditions i.e. in case of liquidity needs generated by the default of the two clearing members to which it has its largest exposures.

30. One NCA provided a detailed description of its specific further supervisory activities carried out through questionnaires and meetings with its managers :

31. Periodically, as a result of both ongoing supervision and specific reviews or annual reviews, quantitative information processed by the CCP on the performance of the liquidity risk management framework is collected, with which the liquidity needs and

liquid resources calculated by the CCP are identified and the adequacy of those is assessed. Specific information on the internal calculations made by the CCP is also requested to verify they are consistent with the CCP's own procedures.

32. The CCP is required to validate annually on an independent basis its risk models and methodologies, including its liquidity risk management. In addition, a validation takes place in the authorizations made by the NCA both in relation to the extensions of activities and to significant changes in the models. This report is sent for subsequent analysis to the NCA.

33. The CCP also carries out an annual review of the performance of the various components of its risk management system in order to identify possible weaknesses and propose appropriate corrective measures.

34. With all this information, the CCP must prove that it complies at all times with the cover-2 requirement in relation to liquidity risk.

35. Another CCP gave its NCA a live demonstration of the liquidity calculations during a supervisory workshop and the calculation has been discussed during an on-site review.

36. Some NCAs request to be sent a regular liquidity stress test report that identifies the “cover 2” among the clearing members (or sometimes clearing member groups). The frequency of such reports varies widely across CCPs: daily, monthly, quarterly or only annually (typically during annual reviews).

37. According to description of one NCA, this report shows the cover 2 liquidity coverage ratio corresponding to the ratio between resources and liquidity needs in the event of default of the two largest exposures. This report details the amount of resources (notably all members’ margins including initial margins plus additional margins minus any losses on Collateral and Liquidity Management investment portfolio) and liquidity needs, in particular to purchase securities from non-defaulting members on behalf of defaulters in the relevant segments. Another NCA reported that such report is produced for each currency the CCP clears in.

38. Some NCAs report that they use the 2 clearing members used for the default fund sizing or base their selection on the amount of required margin. This does not ensure that the CCP captures the worst pair of clearing members for liquidity purposes. ESMA has identified the following best practice:

Best practice 1

39. To ensure that the liquidity management framework can withstand the default of any two clearing members, NCAs could request that the selection of those clearing members should be made based on the largest liquidity exposures.

Market scenarios

40. A majority of NCAs reported that the liquidity stress tests use all the market scenarios used to size the default funds (i.e. in credit stress tests).

41. In most cases, the consistency was assessed using variation margins. The same variation margin flows recorded under the credit stress test scenarios are used to increase the potential liquidity needs under the liquidity stress test scenarios.

42. There are cases reported for which there is no consistency. One NCA reported that there is a pending Art 49 procedure to align them. Another NCA investigated the inconsistency and asked the CCP to explain and the NCA has not yet concluded. A third NCA reported that the stress factors within the credit stress scenarios that are used for liquidity assessment are equal or lower in comparison to the liquidity stress factors.

43. One NCA however indicated that it did not assess the consistency between the credit and liquidity framework.

Best Practice 2

44. NCAs could request that the liquidity stress tests use at least all the market scenarios used to size the default funds, taking into account that the market scenarios used for the purpose of liquidity stress testing are built to assess daily liquidity needs of the CCP, while the credit stress scenarios aim to evaluate the overall loss occurring over the whole liquidation period. Using the same scenarios enhances consistent assumptions regarding variation margin flows.

Capacities considered (including settlement of obligations)

45. Most of the responding NCAs have indicated that they checked that CCPs considered all other relevant capacities of the defaulting clearing members.

46. Some NCAs reported that those capacities are not always applicable. For example, securities issued by clearing members are not counted among eligible liquidity resources and custodians are usually CSDs.

47. One NCA reported that it didn't check that all capacities were considered as it was receiving aggregated results. This would however be covered in on-site inspections.

48. Some NCAs reported that although the capacities were considered, this was not done simultaneously. For example, one NCA reported that If liquidity providers as clearing members have the largest exposure in a default scenario their credit lines are deemed no longer available as a liquidity source in the scenario. Clearing members who are also issuers are subject to separate stress and sensitivity tests.

49. Another NCA explained that with its access to direct information from the CCP's IT systems, it can replicate the calculations made by the CCP and verify to what extent the different roles that an entity may have vis-à-vis the CCP are sufficiently covered.

50. According to another NCA's assessment, the capacity is correctly reflected in the scenario by considering the exposures in a cumulative way (i.e. for each defaulting CM the liquidity needs stemming for each capacity are added up)

51. Several NCAs rely on the desk-based analysis of the documentation.

Best Practice 3

52. NCAs should request CCPs to assess, as much as possible, all clearing member capacities simultaneously. Testing some capacities through further analysis can lead to the selection of 2 clearing members that would not create the largest liquidity combined exposure.

Best Practice 4

53. From the provided responses it was clear that, as part of the supervision of CCPs, some NCAs only rely on desk-based analysis of the documentation to check if and how the different clearing member capacities are assessed. Given the complexity of the topic and the implementation challenges, ESMA believes that it could be useful for NCAs to check that based on the methodology provided they can replicate or reconcile the calculations made by the CCPs. Such analysis could be performed during on-site inspections or when assessing model changes.

Settlement of obligations (including deliveries of securities) of defaulting clearing members

54. NCAs were asked to describe how they assess that the settlement of obligations (including deliveries of securities) of defaulting clearing members is correctly modelled.

55. Most NCAs reported that their assessment is document-based and for a few only done during the annual review.

56. However, one NCA reported that the settlement of obligations is not assessed off-site on a regular basis as it is not considered necessary, but that it would be analysed in an on-site inspection or as part of the validation of significant changes. One other NCA replied that it did not see a connection between the CCP models (such as the margin model) and the settlement of positions.

57. Another NCA reported that it has not yet performed any supervisory action to validate the calculation of the scenarios.

58. Some NCAs provided a detailed description of the CCP modelling as evidence of their activities.

59. For example, one NCA reported that the CCP takes into account all the cash giving obligations of the defaulter and that these are modelled on a per currency basis per settlement day. Moreover, it expects that, to the extent applicable, all the securities giving obligations of the defaulter would be taken into account, that the CCP would perform a buy-in of these securities as per the default management procedure and takes into account the associated cash flows. Furthermore, it expects that cash obligations are met on settlement date and that securities are bought at market price.

60. Another NCA checks that the obligations and responsibilities held by the CCP, clearing members and clients concerning cash settlements or deliveries of securities are stated in the corresponding internal regulation of the CCP, i.e. general conditions, circulars, etc. In these processes, the consistency of the settlement obligations established therein with the liquidity risk management procedures is reviewed. In addition, the checks performed on the CCP's estimated calculations are reviewed to assess their consistency with the liquidity risk management procedures.

61. A third NCA reported that the CCP follows a set of principles deemed appropriate, as the risk procedure deals with the settlement of obligations. It was able to provide a detailed description of those principles.

62. Finally, a few NCAs mentioned that they check the assumptions made about the settlement cycles and how they are implemented.

Best practice 5

63. NCAs could consider enhancing their supervisory approach to make sure that the settlements of obligations of defaulting clearing members are reflected in full in the liquidity stress testing framework. In particular, the CCP would need perform the necessary actions (such a buy-ins) to fulfil the securities giving obligations of the defaulter as they fall due.

<u>Defaulting entities selection</u>

64. NCAs were asked to describe how they assessed the selection of the 2 entities determining the Cover 2 for liquidity purposes.

65. Some NCAs reported that they check that in their different supervisory processes, they assess whether the CCP simultaneously considers the different roles of the clearing members and selects (at least) the pair of them for which the payment obligations would be greater in case of default.

66. Some NCAs also include the exposures of all entities belonging to the same group, including also settlement agents. Even in that case, different capacities of the defaulting CMs (and of the other entities belonging to the same group to which the CCP has exposure to) are taken into account.

67. 3 NCAs reported different methods the CCP uses to monitor how the liquidity risk generated by the default of at least the two entities to which it has the largest combined exposure

    a) One NCA reported that in addition to assessing the liquidity risk from the default of the two largest clearing members, the CCP also assesses, as requested by the NCA, the liquidity requirement from its largest exposure which is towards an interoperable CCP. A daily LST report is sent to the NCA that shows the ratio between resources and liquidity needs in the case of that interoperable CCP default. Furthermore, the CCP performs a monthly reverse stress test which includes the default of the interoperable CCP and the largest exposure among clearing members.

    b) Another NCA reported that it takes the maximum of

        a. the default of the two CM with largest potential losses under the stress scenarios combined with a technical or financial failure of a counterparty assuming the role of custodian bank and/or liquidity provider (the worst combination scenario is selected);

        b. The default of the two financial settlement agents with largest potential debits, combined with a technical or financial failure of a counterparty assuming the role of custodian bank and/or liquidity provider (the worst combination scenario is selected).

    c) A third NCA reported that the CCP considers not only the 2 largest entities (clearing members and liquidity providers) but the largest 3.

68. Regarding non-clearing member defaults, one NCA does not assess if the CCP assesses default scenarios beyond the ‘Cover-1’ EMIR requirement.

Best practice 6

69. NCAs could request CCPs to at least monitor the liquidity risk generated by the default of at least the two entities (and entity groups), including clearing members, interoperable CCPs or any entities that provide services to the CCP, to which they have their largest liquidity exposures (Liquidity risk ‘Cover-2’).

Possible technical / financial failure

70. NCAs were also asked to report how they assess that the CCP takes into account the possible technical / financial failure of settlement bank, nostro agents, liquidity providers in its liquidity stress test scenarios.

71. Some NCAs mentioned that the CCP has a direct account at the central bank and that it therefore does not use settlement banks or nostro agents. Some also reported that the CCP does not have any relationship with liquidity providers.

72. One NCA reported that the CCP has access to all the CSDs it is connected to. As documented and verified during the on-site inspections, a liquidity risk report is run on an hourly basis from 9 to 18 in order to identify operational issues related to the CSDs. In addition, the CCP regularly tests its capacity to enter into repo trades with banks.

73. Another NCA checks whether the CCP includes the failure of the largest two liquidity providers and a settlement system failure in its stress test scenarios. In addition, the authority ensures that as part of the ‘Cover-2’ scenario, CCPs test the failure of clearing members in the capacity of settlement banks and liquidity providers.

74. A third NCA mentioned that as part of the daily management of liquidity risk, the CCP analyses the eventual default of any entity acting as a payment agent (every payment agent is also a CCP CM) in the multilateral settlement that the CCP performed at the Target 2 of the central bank. This situation may occur when a payment agent does not make the corresponding payments it has committed to in such settlement.

75. Some other NCAs reported that the CCP performs default tests of those entities who are acting as liquidity providers or has one of the stress test scenarios considering the default of the payment bank.

Contagion effects

76. NCAs were also asked how they assess that the CCP takes into account possible contagion effects (due to some technical linkage, being part of the same group, etc.) due to stress test defaults and their effect(s) on resulting liquidity needs.

77. A majority of NCAs reported that computations are made at group level for each clearing member, by considering jointly the exposures of all the entities of the same group.

78. Another NCA reported that following one recommendation, the CCP has implemented systemic crisis scenarios with a flight to quality including contagion effects in order to simulate the impact of multiple defaults on the market.

Porting

79. NCAs were asked how they assess that porting is considered and if they check if both the porting and absence of porting are included in the scenarios.

80. Many NCAs did not perform the assessment of porting in liquidity stress testing. In most cases, testing the assumption is simply not applicable as clients didn't nominate a back-up member or porting is not allowed.

81. Most authorities that assessed the impact of porting consider no porting as the more conservative and prudent approach.

82. One NCA asked the CCP to identify the scenario that consumes the most liquid resources. This worst-case scenario typically involves no porting; for this reason, the potential liquidity needs derived from a lack of cash are calculated for all the accounts cleared by each clearing member.

83. Another NCA reported that the CCP does not consider the collateral allocated to the initial margin amounts referring to client clearing accounts with individual or omnibus segregation and specifies that in clearing members' potential losses computation it also adds any negative risk exposures resulting from those client clearing accounts.

84. Moreover, one of those NCAs consider porting as a second order risk, taking into account the risk profile of the CCP which activity is mainly on Repo that has no client clearing activity.

85. One NCA reported that it was checking porting during fire drills but did not provide evidence that it was checking the assumption.

86. As porting would cause the loss of netting benefits between house and client accounts and would result in the transfer of client initial margin, it could create further liquidity needs. Even in the "no porting" scenario, there may be also more or less conservative variations. For instance, it may be that the CCP at the beginning is trying to port the client positions that proves to be unsuccessful later. Hence, it needs to liquidate the client positions with a delay, while house positions may have been already hedged etc. This variant of "no porting" may create more liquidity needs for the CCPs than assuming no porting right from the start. ESMA has therefore identified the following consideration :

Consideration 1

87. From the provided responses, most authorities consider no porting to be the more conservative assumption. ESMA believes that even if this is typically the case, there could be instances where porting or an attempt to port could create further liquidity needs. Thus, NCAs could ask the supervised CCP to complement its stress testing by including the porting assumption when relevant.

Issue 2. Assessment of the liquidity position of the CCP

88. The NCAs were invited to describe how the liquidity position of the CCP is assessed in a given liquidity stress test scenario to satisfy the requirements of RTS Art 32, 33, 48, 51 and 54.

Resources

89. The NCAs were first asked to detail how they make sure that the liquid resources considered in the stress testing are limited to the ones listed in RTS Art 33.

90. Most NCAs reported that margins called but not yet paid are excluded. However, one NCA reported that the margins called are included.

91. Most NCAs reported that excess resources are excluded from the LST. One NCA reported that the composition of the resources excluded is obtained by applying a proportionality criterion based on the actual composition of the total collateral deposited by each participant and taking into account the limits related to country and concentration. However, one NCA reported that excess resources are not excluded because the CCP liquidity risk management Framework only allows for the release of the excess collaterals in the form of cash the next working day of the application by the clearing member.

92. Some NCAs reported that they checked that CCPs had in place committed credit lines. Some of them require contracts of all liquidity arrangements to be provided for the annual model review. One NCA checks the committed / uncommitted status when the line is set up. One NCA reported that a CCP also has (uncommitted) credit lines provided by CSDs to respond to intraday liquidity domestic and cross-border settlement needs.

93. Although some NCAs reported binding global master repurchase agreements (GMRAs) in place, those repurchase agreements are not described as committed.

Best practice 7

94. NCAs could require the CCPs to exclude excess resources from the liquidity stress testing. The methodology used to identify which collateral is considered excess collateral should be clearly set out.

Resources – credit lines

95. The NCAs were asked to report whether they check that a clearing member, parent undertaking or subsidiary of that clearing member together does not provide more than 25% of the credit lines needed by the CCP.

96. 5 NCAs confirmed that they check that point. For one of those NCAs, the checks are done in the context of the annual article 21 review. For another 2 NCAs, the maximum amount related to committed credit lines with commercial banks is contractually defined and the maximum concentration limit (at group level) is 25%. A third NCA required the calculation regarding Article 44 to be provided before any change in the liquidity arrangements. A fourth NCA checks that in its liquidity plan, the CCP defines concentration limits to the liquidity mechanisms in place – currently as a value of 25% per liquidity provider

97. Some other NCAs answered with considerations on the significance of such credit lines. One NCA reported that those credit lines were not relied on for liquidity purposes. Another NCA reported that the CCP has just one committed credit line, which is very small compared to its full access to the central bank liquidity facilities.

98. Another NCA provided a detailed explanation of its approach. It reported that the CCP treats the obtained credit lines as an additional, precautionary security measure for the event of extreme circumstances. It assesses that this sort of additional source of financing is not, however, necessary from the perspective of meeting liquidity requirements. This NCA reported that this has been the subject of discussion with the independent validators and the College and it has been acknowledged, that in this context, the concentration limits with regard to liquidity provider should not apply.

Consideration 2

99. To comply with the concentration limit requirement under art. 44(1) of EMIR that a clearing member group together shall not provide more than 25 % of the credit lines needed by the CCP, NCAs could ask the supervised CCP to demonstrate that the capacity of credit lines in excess of the 25% threshold is not required to pass the liquidity stress testing by providing testing results that do not take that capacity into account.

Availability and reliability of funding arrangements

100. The NCAs were asked to report what they ask CCPs to assess the availability and reliability of funding arrangements.

101. 4 NCAs required or reported that credit (when applicable) and liquidity lines are regularly tested. This is done for instance during war games (one NCA).

102. One of those NCAs also noted that its CCP has different counterparties with whom it can buy overnight repos for investment purposes. At this point, it is verified that internal tests are performed on the CCP's collateral management system to verify that the repo repurchase process works correctly.

103. Another NCA asked CCPs to explain which funding arrangements are used on a daily basis for a “Business as Usual” (BaU) situation. For funding arrangements which are used for non-BaU, it expects CCPs to periodically test the funding arrangement in order to evaluate the speed of access and reliability

104. One NCA reported that it is satisfied with the GMRA in place for repurchase agreements and that it regards the available credit line as an additional, precautionary source of liquidity, on which the CCP capacity for timely performance of obligations or default servicing, is not dependent.

105. One NCA asks the CCP for information regarding the funding arrangements as well as the contractual arrangements.

106. Another NCA considers that in order to demonstrate that an arrangement is highly reliable including in stressed market conditions, the CCP has to prove: a) the reliability of the counterparty; b) the possibility to obtain funding by an adequate number of counterparties; c) the availability of a liquid and deep market.

Due diligence of liquidity providers

107. The NCAs were asked to report whether they check that CCPs conduct due diligence of their liquidity providers;

108. Some NCAs reported that the CCP does not have agreements with any liquidity provider apart from clearing members, from which it can use part of their cash collateral as a liquid resource.

109. Other NCAs responded that the CCP may use liquidity lines provided by central banks or state-owned entities. Due diligence is not performed in general on those entities.

110. For liquidity lines with commercial entities, one of these NCAs checks the compliance with the governance of the CCP, which includes a credit risk assessment methodology and criteria. Any change of counterparty is submitted to the NCA.

111. Another NCA reported that the CCP shares the results of the tests on the activation of the liquidity mechanisms in the quarterly and yearly liquidity reports.

112. One NCA answered that the CCP performs an assessment of its counterparties to evaluate their "eligibility" before entering into agreements with them. Counterparties are evaluated through an internal rating model that combines financial data with market data and external ratings provided by credit rating agencies. The CCP's internal Risk Committee reviews monthly the scores assigned to current and potential counterparties.

113. Another NCA described the CCP due diligence framework. The CCP regularly performs due diligence on third parties that provide core services to the CCP. Also, every two years the CCP conducts a due diligence campaign where a questionnaire – covering operational, cyber, outsourcing and financial aspects - is sent to third parties. Responses to this campaign are then reviewed and challenged by the CCP. The CCP informs regulators of this process and results. Changes in these policies and in the providers' credit quality are reported to the NCA.

Consideration 3

114. NCAs could consider enhancing the CCP due diligence framework, to introduce regular due diligence on third parties (including state-owned entities) that provide core liquidity services to the CCP. This could be achieved by conducting due diligence campaigns where a questionnaire – covering operational, cyber, outsourcing and financial aspects - is sent to third parties.

<u>Reliability testing of liquidity resources, including in stressed conditions, through fire drills / war games</u>

115. 3 NCAs reported that the CCPs annually perform fire drills exercises or internal war games.

116. For the first NCA, the aim is to test its default procedures including access to liquid resources. Simulations assume the default of one or more clearing members in the various business lines, under stressed market conditions.

117. Another NCA reported that the CCP undertakes internal war games at least once a year for all business lines in order to ensure that all assumptions in the LST are realistic, as well as to test liquidity instruments that are not used on a day-to-day basis. More specifically, these exercises aim to test:

a. The execution procedures part of the business as usual, such as the sale of securities;

b. Access to liquidity such as the access to the Central Bank facilities.

c. Activities that cannot be fully tested through the execution test mentioned above and aim to demonstrate that the CCP is able to raise Euro Cash from Non Euro denominated securities.

118. The results of these tests are reviewed with the NCA. They are then used by the CCP for the quarterly review of the liquidity plan and of the LST assumptions, which are then circulated to and discussed with the NCA.

119. Other NCAs check the results of the CCPs' fire drills but do not report the frequency of such exercise. One of them states that CCPs almost exclusively consider cash as their liquidity resources, which is always available, also in stressed conditions. Business continuity exercises are also used to test connections with liquidity providers by an authority.

120. Finally, another NCA reported not having checked this yet.

Timeliness of liquidity provision through their funding arrangements

121. Most NCAs reported that they check that CCPs ensure the timeliness of liquidity provision through their funding arrangements, in particular on an intraday basis. NCAs usually reported that they do this during Art 49, annual reviews and other desk-based reviews or by checking reports on the breakdown of resources or onsite inspections. Some NCAs also report that the CCPs do not rely or need credit / repo lines for liquidity purposes.

122. A couple of NCAs provided a more detailed answer. For the first one, the timeliness of liquidity provision, including on an intraday basis, is achieved through:

- Maintaining cash deposited at the central bank
- Private sector funding, i.e.: committed credit lines and uncommitted repo lines
- Prompt liquidation of the securities held
- Potential access to the T2S autocollateral facility if needed.

123. According to another NCA, the CCP has full access to its central bank on an intraday basis. Furthermore, all securities considered as a primarily source of liquidity are highly marketable and hence able to be readily converted into cash without pre-arrangements and approval.

Resources - Credit lines

124. 2 NCAs confirmed that they check that the maximum capacities of credit lines are considered.

125. For committed credit lines, there are no specific conditions under which the commercial banks can decide not to provide the agreed liquidity amount according to 2

NCAs. In their view, this is sufficient to consider that the credit line will be available even under stressed conditions, unless the liquidity provider is the defaulting member. For one CCP, this is reinforced by the high reliability and creditworthiness of the counterparties of such credit lines, evaluated through an internal rating model.

126. Another NCA reported that the only resources that may not be fully available under stressed conditions or during a default are a number of small uncommitted credit lines, not taken into account in LST.

Resources - Repo lines

127. Government bonds were reported as the only eligible collateral by NCAs supervising CCPs with repo lines, except for one NCA with a CCP that has repo agreements in place to generate FX cash when needed. In this case, collateral generally accepted by the CCP is eligible for these repos, including the respective haircut

128. More precisely, one NCA reported that its CCP accepts only euro-denominated government bonds issued by countries with low credit risk which is updated on an ongoing basis and traded on liquid markets. Government bonds from 8 countries are eligible. Such securities are eligible collateral for repurchase agreements. Another NCA reported that the duration of such bonds should be lower than 2y.

129. With regards to non-committed liquid resources, one authority listed both outright sales and repos. The same authority also listed the 3 criteria it uses to demonstrate that an arrangement is highly reliable including in stressed market conditions : a) the reliability of the counterparty; b) the possibility to obtain funding by an adequate number of counterparties; c) the availability of a liquid and deep market.

130. This authority is satisfied that such funding arrangements of its CCP are pre-arranged and reliable since

d. Outright sales are executed on a multilateral trading facility in which the CCP participates directly

e. The CCP participates in the triparty repo services offered independently by the two ICSDs. Repo counterparties are selected ex ante among entities that: i) have signed standard GMRAs with the CCP; ii) participate in such triparty repo services; iii) have signed, with the CCP and with the ICSD selected as triparty service agent, additional contractual agreements containing most of the relevant aspects of the repo transactions, including the eligibility criteria for the securities accepted as collateral and the value of the haircuts

131. Another authority requires its CCP to comply with the calculated liquidity need based on EMIR requirements with committed liquid resources. Other than that, non-committed liquid resources can be held as quasi back-up solutions. To check the terms, contracts must be provided, and the arrangements must be included in the annual testing of liquidity resources.

132. NCAs were asked to describe whether they check that the collateral is valued consistently with the market scenarios.

133. Most NCAs responded that the stress tests assumptions regarding collateral valuation have been approved by the NCA and any material change needs to be notified and discussed with the NCA, or that they perform checks during art 49, on-site inspections or annual reviews.

134. A few NCAs provided a more detailed answer. 2 NCAs reported that in the liquidity stress test, the collateral is valued consistently with market shocks. Some NCAs reported that the collateral is valued considering different haircuts, which are at the same time calibrated at stress test levels.

<u>Payment and settlement obligations</u>

135. NCAs were asked to report whether they assessed if for each instrument, all settlements are assumed to be happening as they fall due (i.e. no delayed settlement is assumed).

136. Only 2 NCAs reported detailed evidence that they have assessed that all settlements are assumed to be happening as they fall due for each instrument.

137. Another NCA reported that a delayed settlement (up to 5 days) was assumed only for the settlement of cash equities and fixed income securities. A fourth authority reported that cash market instruments which have two days settlement cycle are netted. For derivatives all settlements are assumed to be happening the same day as they fall due.

138. 3 NCAs reported that there has not been an explicitly assessment regarding settlement of all each instrument in due time. Finally, 3 other NCAs answered without providing further evidence that they checked the no delayed settlement assumption through Article 49s, annual review or desk-based reviews of the LST framework.

139. NCAs were also asked whether they are checking if deliveries of securities to non-defaulting clearing members are assessed at ISIN level.

140. 3 NCAs answered that settlement obligations towards non-defaulting clearing members are assessed at ISIN level, and that net deliveries to a non-defaulting clearing member are not netted with receipts of the same security happening at a different date.

141. On the contrary, 2 NCAs reported that the securities are assessed at an ISIN level but net deliveries are netted with receipts of the same security happening at a different date to the extent the CCP's product lines allow for this.

142. 3 NCAs reported that is not assessed or mostly out of scope with 2 other NCAs checking the point without providing further evidence.

143. 3 NCAs reported that securities that should have been delivered to a defaulting CM are withdrawn by the CCP, thus generating liquidity needs at the settlement date. These securities are then sold out to generate liquidity to meet all cash flows. One NCA further added that securities eligible for Central Bank refinancing, are considered available to be used as collateral for financing repos on a same day basis, at a value obtained by applying the ECB haircut to the stress price. Similarly, another NCA responded that such securities could be considered a liquid resource.

144. Most NCAs have checked when the cash is assumed to be available when liquidating collateral or securities in the market. For one NCA, this is mostly out of scope due to the cash nature of the collateral and that it doesn't clear securities. Another NCA performs checks but did not detail the CCP practices.

145. CCPs make different assumptions with 2 NCAs reporting that the cash would be available after a settlement lag of 2 days, and 2 NCAs reporting no settlement lag. One of those NCAs reported that the CCP's highly marketable securities can be rapidly converted into cash on a same day basis. Another NCA considers that the CCP's collateral which consists of highly liquid asset classes can be usually liquidated within one business day. Another NCA reported that the CCP stock collaterals are not considered as same day available liquidity; and are considered to be converted in cash only the 4th business day after the default.

Best practice 8

146. NCAs could consider enhancing their supervisory approach to ensure that for each instrument, all settlements (including securities) are assumed to be happening as they fall due. Moreover, NCAs could require the CCPs to demonstrate that the assumptions made on the timing of the liquidation of collateral, as well as the highly reliable nature of funding arrangements to convert highly marketable financial instruments into cash, for instance, via repo markets in stressed market situations, are prudent.

<u>Large positions</u>

147. There is no specific treatment reported by NCAs to deal with large positions. No NCA reported using a longer liquidation period for such positions. Some NCAs report however that the CCP charge concentration addons which adds to the resources available.

<u>Other outflows</u>

148. NCAs were asked whether they assessed if and how the CCP accounts for outflows such as business as usual outflows and provision of liquidity to facilitate settlement needs.

149. A few NCAs reported that ongoing liquidity needs are taken into account in the liquidity stress test framework.

150. An authority reported that the CCP uses historical data as an indicator to assess the intraday liquidity needs over each settlement platform. Another NCA sees the business as usual outflows of the CCP as negligible. A third NCA reported that the CCP's risk management tools estimate the updated outflows in a BAU situation in order to calculate the provisions of liquidity to meet the settlement needs.

<u>Multi-currency</u>

151. NCAs were asked to detail how they assess the clearing in multiple currencies when relevant.

152. Many NCAs reported that they only clear in one currency. Some others answered that although they clear in more than one currency, they do not run the framework for all currencies separately as one of them has a dominant share.

153. For example, one NCA reported that the CCP’s only foreign currency exposure is USD and that transactions denominated in USD only accounts for around 0.05% of the total clearing activity. Therefore, the USD exposure is simply converted in EUR (using the most recent exchange rate) and cumulated with the EUR exposure. Another NCA assesses that as the non-EUR liquidity requirements are small, the CCP performs proper liquidity stress testing only for EUR liquidity needs. This NCA also provides a comprehensive list of the tools the CCP would use to cover non-EUR liquidity needs. According to the last authority, the 2 currencies with negligible exposures for the CCP are not tested.

154. 3 other NCAs reported that the assessment is done on a per currency basis. One NCA reported that the CCP runs stress tests for its 2 clearing currencies separately, although the liquidity needs in one currency are insignificant. Another NCA reported that the liquidity needs per currency are calculated and then compared with the available liquid resources in the same currency before assuming any currency conversion.

155. The NCAs were further asked to report whether they check which instruments are used when using excess liquidity in a currency to cover a shortfall in another. One NCA reported that USD liquid resources are provided by multicurrency credit lines. Another NCA reported a CCP using committed FX swap facility, committed credit lines which can be secured with cash, and, in short, having instruments which enable it to request to swap collateral in the currencies it needs from clearing members. It notes that the use of an FX swap may create some further market risk for the CCP and that the NCA checked that the CCP has readily market access to those instruments.

156. Another NCA explained that If there is excess liquidity in one currency, but a shortfall in another, the CCP can execute FX spot. The main risk remains related to FX spot rates. However, it considers that instruments denominated in non-EUR currency are generally highly marketable and represent a small amount and that in any case they are not considered as liquid resources in the methodology. One NCA did not check the instruments used as it considers the exposures in other currencies negligible.

157. Finally, a fourth NCA reports that the following instruments are used: - FX Swaps: ISDA agreements with 12 commercial banks - A variety of repo agreements with a large number of counterparts to acquire the needed currency - Committed Credit facility - Committed FX facility These instruments are also provided bilaterally by some Clearing Members, where a FX market access is not required. For the remaining instruments, market access (at least to some degree) is generally assumed. As a last resort, the clearing conditions allow the CCPs to pay in a different currency (usually Euro), if the CCPs cannot manage to get the desired currency, e.g. no FX market access.

Scope / Usage of resources

158. NCAs were asked to describe how they assess the assumptions made with regards to the allowed usage of resources (margins, default fund contributions) to cover liquidity needs.

159. Some NCAs reported that they assessed the consistency of the assumptions made against the contractual framework, particularly with the provisions of its internal regulations.

160. One NCA reported that the CCP liquidity plan enumerates the liquid resources it can use to cover liquidity shortfalls, without making any distinction based on the source of such resources (i.e. margins, DF contributions, SITG). Pursuant to The CCP rulebook, the ownership of any resources deposited by CMs as margins/DF contributions is transferred to the CCP while, by definition, the SITG is made up of the CCP's own resources. There is therefore no limitation to the use of available liquid resources at CCP level.

161. Another NCA mentioned that the CCPs almost exclusively consider cash for their liquidity resources, which can be used without any limitations (excess cash collateral is excluded). Another NCA has analysed the contract of a new credit line to assess the impact of restrictions regarding the usage of the resources. Another NCA reported another funding mechanism, called "Demand Cash Collateral", which corresponds to the use the participants' cash collateral that is invested through demand deposits. Lately, most of the cash collateral has been deposited in demand accounts at the central bank where are permanently and immediately available to be withdrawn. An NCA mentions that cash posted as margin is transferred with full title. Therefore, the CCP can decide to use margins of a clearing member to cover liquidity needs caused by the default of another clearing member.

162. On the contrary, one NCA reported that margins of a clearing member are not used to cover liquidity needs caused by the default of another clearing member. Likewise, for another NCA, margins are not used to cover liquidity gaps caused by the default of other clearing members.

163. When margins of a clearing member are used to cover liquidity needs caused by the default of another clearing member, the majority of NCAs checked that this is clearly stated in the rulebook. It should be noted however that some answers were only covering the treatment of cash margins.

164. NCAs were also asked whether they checked if resources from a default fund could be used to cover a shortfall in another default fund or at CCP level.

165. 4 NCAs reported that this was not applicable as all default funds of the CCP are segregated at service level. On the contrary, one NCA reported there is no limitation to use any resource at CCP level. 2 NCAs reported that this is not applicable as the CCPs have only one default fund. Finally, 2 NCAs mentioned they checked this point without providing further details.

Best practice 9

166. NCAs could consider enhancing their supervisory approach to ensure that the rulebook clearly states which type of collateral or margin of a clearing member can be used to cover liquidity needs caused by the default of another clearing member.

Computing the liquidity exposures

167. The NCAs were asked if they check whether the computed liquidity exposures consistently reflect the actual settlements and deliveries related to cleared products and the change in collateral values for each scenario.

168. Some NCAs reported that although the computations are done according to the liquidity policy, they did not perform or report an explicit assessment of the procedure.

169. One NCA reported that both cleared products and securities held as collateral or as investment are evaluated at stressed prices according to the same yield increase (price decrease) stress scenarios used for the sizing of the default funds. According to another NCA, liquidity exposures are computed considering actual settlements and deliveries calculated at EOD session. The collateral is also valued at that same time using the haircut values, which are already set at stress test levels.

170. NCAs were also asked if they check whether the liquidity exposure is assessed on each day of the liquidation horizon.

171. 4 NCAs reported this was the case and 3 other NCAs simply reported that they check this point without providing further details.

172. It should be noted that one authority reported that this was not in scope of its analysis and the methodology reported by another NCA seems to focus on the first 2 days of the liquidity horizon.

Issue 3. Usage and analysis of the stress tests results

173. The NCAs were invited to describe the criteria and conditions they use to assess that stress test results analysis and usage satisfy the requirements of RTS Art 54, 56 and 59.

174. The NCAs were asked to describe how they make sure that the CCP measures, on a daily basis, its potential liquidity needs and that the CCP has transparent rules and procedures to address insufficient liquid financial resources highlighted by their stress tests to ensure settlement of payments obligations.

175. Beyond procedure checks, the main practices are

f. Checking results from regular reports (summary of the daily stress testing results on a monthly basis) or computation requests (through Art 15, Art 21).

g. Deep dives using information from the CCP’s IT systems, through which the NCA can review the calculations made by the CCP or live demonstration of the stress testing process and discussion of the results.

h. Checking internal processes and tools : automatic technical tool that allows the simulation on a daily basis of the liquidity flows generated from the cover 2 scenario ; Existence of a team independent from the front-office that performs this assessment on a daily basis by monitoring liquidity needs, reporting liquidity risk limit breaches and sending liquidity report. The CCP informs the NCA as soon as material liquidity risks are identified.

176. NCAs were then asked to explain how they assess that the CCPs have clear procedures for using the results and analysis of their stress tests to evaluate and adjust the adequacy of their liquidity risk management framework and liquidity providers.

177. One NCA reported that the CCP has an internal tool in place to perform daily simulation of liquidity needs and assets under stress scenario. The tool implements the relevant assumptions set in the liquidity plan. Deeper dive investigation can be performed by National Authorities via on-site inspections.

178. Another NCA explained that daily stress testing results are compared to available liquid resources (daily breaches against CCP's credit lines, own funds and default funds). Based on a monthly analysis of liquidity need breaches, additional measures might be introduced: higher cash collateral ratios, new credit line agreements etc.

179. Another NCA checked that the CCP procedures state what to do in case the results of the CCP tests imply that the CCP should take a mitigating action. Also, the actions taken by the CCP's risk area are reviewed to assess the extent to which they have complied with its procedures.

Model monitoring and resolution

180. NCA were asked if they check that the CCP, in reviewing its models, their methodologies and the liquidity risk management framework, monitor the frequency of reoccurring testing exceptions to identify and resolve issues appropriately and without undue delay

181. For a number of NCAs, when exceptions are identified, the CCP investigates the cause and reviews the model/methodology. The check is performed within the ongoing supervisory process in general and in case of onsite inspection.

182. Another authority reported that the CCP performs daily stress tests (daily breach count) and end of the month statistical analysis of the breach count. If the number of breaches is too high the CRO calls for a meeting with the management board in order to decide on remedial actions such as change of margin model parameters, new haircuts, new collateral classes, review of eligibility criteria etc.

183. Another NCA reviews that the CCP takes into consideration the results of the tests when reviewing its liquidity risk management models and procedures.

184. For another NCA, according to the rulebook the CCP shall analyse and monitor the liquidity risk by conducting at least daily stress tests of its liquid financial resources. In case of insufficiency, it shall decide to cover the shortfall by increasing the resources available, which may include increasing the Default Fund, increasing the margins that must be covered by cash for one or more clearing accounts or increasing the Special Own Resources or securing liquidity lines with credit institutions. The NCA checks the point above through the annual Model Validation Report and the Risk Committee minutes (quarterly).

185. The last NCA reported that the CCP evaluates its liquidity plan on a quarterly basis, based on a comprehensive list of metrics (including among others operational tests (annual), results comparisons between liquidity arrangements and needs (daily),

exposures limits and needs (daily). The NCA has access to those quarterly reports and the annual review of the liquidity risk management framework.

Novation

186. NCAs were asked if they check if the CCP runs the stress testing framework before accepting to novate over the counter trades.

187. 2 NCAs reported that this point was assessed (during Art 49s) without specifying the practices of the CCPs. For 4 NCAs, this is not relevant as their CCPs do not clear OTC trades.

188. One NCA reported that for the relevant segment/services, the CCP runs the stress testing framework before accepting to novate over the counter trades. Conversely, another NCA mentioned that the CCP does not run cover 2 stress testing before accepting to novate trades: liquidity stress tests are performed on a daily basis.

189. A third NCA reported that the CCP calculates a daily operational limit which the clearing member is subject to, both for its own account and on behalf of its clients with General Omnibus Clearing Accounts. Moreover, the CCP defines for each client with Clearing Accounts with Individual Segregation or Clearing Accounts with Omnibus Segregation a daily operational limit corresponding to the maximum exposure that the client may assume in relation to its positions and deposited collateral.

190. According to the same NCA, this is in addition to 2 complementary analysis. The first analysis focuses on the clearing members with a real time intraday monitoring of the collateral versus all responsibilities. In the second analysis, the CCP monitors the balance between a counterparty's exposure limit and its exposure. This analysis is performed daily, although an intraday update is triggered either i) by an event; or ii) if the CCP considers that a given counterparty should be more closely monitored (e.g. when a counterparty exposure balance is becoming low).

191. Throughout the open phase of the clearing session, a clearing member may not allow the registration or closing of a position that would imply an increase of liabilities higher than its daily operational limit. This real time disclosure of information allows the CCP to intervene immediately when it detects that the clearing member is likely to breach the established limits.

192. NCAs were also asked how they assess that the CCP manages the liquidity risk arising from on market trades

193. An NCA answered that the CCP has a system of intraday risk limits by which, once certain thresholds are exceeded, participants are asked to provide additional funds. This system is essentially aimed at preventing the CCP from becoming under-collateralized with respect to on market trades.

194. Another NCA described the mechanism of its CCP’s gas and energy markets, for which the CCP operates a trading limit system and the markets are pre-funded. Therefore, the purchase price is provided upfront, resulting with no liquidity risk for the CCP at settlement date.

195. An NCA reported that on both securities and derivatives markets, the add-ons collected to cover the liquidity risk arising from exchange market trades are ex ante.

196. Another NCA reported that the CCP calls margin add-ons to cover the market and concentration risks. Those add-ons are computed as part of the overall margin model, whose performance is regularly assessed by the NCA. The add-ons are called ex-post together with the core margins calls for some services but called ex-ante (pre-margining obligation) for another.

Best practice 10

197. NCAs could request CCPs to run their stress testing framework before accepting to novate over the counter trades. Alternatively, NCAs could ask CCPs to calculate and monitor daily risk limits at clearing member or account level in order to intervene ahead of a potential breach of stress testing requirements.

<u>Prefunding incoming settlements</u>

198. NCAs were asked if they check that the CCP monitors and requires clearing members to prefund upcoming settlements when a potential liquidity gap has been identified in the future.

199. Some NCAs reported that they don't require the CCPs to get clearing members to prefund upcoming settlements when a potential liquidity gap has been identified in the future.

200. 2 NCAs reported that CCPs monitor and require clearing members to prefund upcoming settlements when a potential liquidity gap has been identified in the future. This usually occurs once or twice a year for one CCP. One of those NCAs only mentions same-day settlements, the other T+2.

201. Others NCAs mention that although it is checked that the CCP monitors upcoming settlements to identify its potential liquidity needs, but it is not necessary that the CCP requires Clearing Members to prefund any upcoming settlement, given that the liquid resources available to the CCP through other tools are much higher than the potential liquidity needs recorded by the two largest Clearing Members.

202. 2 NCAs responded by reporting that the CCPs operate a system of pre-set positions limit.

203. One NCA answered that the prefunding requirements are assessed during on-site inspections or Art 49 but doesn't provide its assessment.

5.2 Main findings

204. Many answers to the questionnaire were very thorough and provided evidence of the supervisory actions. NCAs reported that, overall they systematically review the CCPs' implementation of the stress testing requirements of the liquidity risk management framework and of the CCP liquidity risk controls through the annual review under Article 21 of EMIR and, where relevant, in the context of formal authorisation under Article 15 of EMIR or validation of significant changes under Article 49 of EMIR. Onsite inspections and deep dives are also often used.

205. The responses to the survey evidenced a high degree of convergence of the supervisory approaches in the assessment of liquidity stress testing scenarios.

206. The peer review identified however some methodological differences in the selection of the 2 clearing members for ‘Liquidity Cover 2’, the choice of market scenarios and the treatment of the capacities of the defaulting clearing members. In order to mitigate the risk of underestimating ‘Liquidity Cover 2’, ESMA has identified the following 3 best practices.

Best practice 1 To ensure that the liquidity management framework can withstand the default of any two clearing members, NCAs could request that the selection of those clearing members should be made based on the largest liquidity exposures.

Best Practice 2 NCAs could request that the liquidity stress tests use at least all the market scenarios used to size the default funds, taking into account that the market scenarios used for the purpose of liquidity stress testing are built to assess daily liquidity needs of the CCP, while the credit stress scenarios aim to evaluate the overall loss occurring over the whole liquidation period. Using the same scenarios enhances consistent assumptions regarding variation margin flows.

Best Practice 3 NCAs should request CCPs to assess, as much as possible, all clearing member capacities simultaneously. Testing some capacities through further analysis can lead to the selection of 2 clearing members that would not create the largest liquidity combined exposure.

207. Furthermore, the answers to the questionnaire also showed that the assessment of some areas of liquidity stress testing was not always performed or being evidenced sufficiently. NCAs should particularly make sure that the settlements of obligations of defaulting clearing members are reflected in full in the liquidity stress testing framework. ESMA has identified the further following best practices on the assessment of the liquidity stress testing scenarios and the liquidity position of the CCP:

Best Practice 4 From the provided responses it was clear that, as part of the supervision of CCPs, some NCAs only rely on desk-based analysis of the documentation to check if and how the different clearing member capacities are assessed. Given the complexity of the topic and the implementation challenges, ESMA believes that it could be useful for NCAs to check that based on the methodology provided they can replicate or reconcile the calculations made by the CCPs. Such analysis could be performed during on-site inspections or when assessing model changes.

Best practice 5 NCAs could consider enhancing their supervisory approach to make sure that the settlements of obligations of defaulting clearing members are reflected in full in the liquidity stress testing framework. In particular, the CCP would need perform the necessary actions (such a buy-ins) to fulfil the securities giving obligations of the defaulter as they fall due.

Best practice 6 NCAs could request CCPs to at least monitor the liquidity risk generated by the default of at least the two entities (and entity groups), including clearing members, interoperable CCPs or any entities that provide services to the CCP, to which they have their largest liquidity exposures (Liquidity risk ‘Cover-2’).

Best practice 7 NCAs could require the CCPs to exclude excess resources from the liquidity stress testing. The methodology used to identify which collateral is considered excess collateral should be clearly set out.

Best practice 8 NCAs could consider enhancing their supervisory approach to ensure that for each instrument, all settlements (including securities) are assumed to be happening as they fall due. Moreover, NCAs could require the CCPs to demonstrate that the assumptions made on the timing of the liquidation of collateral, as well as the highly reliable nature of funding arrangements to convert highly marketable financial instruments into cash, for instance, via repo markets in stressed market situations, are prudent.

Best practice 9 NCAs could consider enhancing their supervisory approach to ensure that the rulebook clearly states which type of collateral or margin of a clearing member can be used to cover liquidity needs caused by the default of another clearing member.

208. Concerning the usage and analysis of the stress test results, there is a high level of convergence on the monitoring of the daily results through reporting and resolution of stress testing exceptions. However, only a few NCAs reported that stress tests were used in a forward-looking manner before novating trades. ESMA identified the following best practice:

Best practice 10 NCAs could request CCPs to run their stress testing framework before accepting to novate over the counter trades. Alternatively, NCAs could ask CCPs to calculate and monitor daily risk limits at clearing member or account level in order to intervene ahead of a potential breach of stress testing requirements.

209. Finally, in order to enhance supervisory practices with respect to CCP's liquidity stress testing, the following considerations are proposed:

- **Consideration 1** From the provided responses, most authorities consider no porting to be the more conservative assumption. ESMA believes that even if this is typically the case, there could be instances where porting or an attempt to port could create further liquidity needs. Thus, NCAs could ask the supervised CCP to complement its stress testing by including the porting assumption when relevant.

- **Consideration 2** To comply with the concentration limit requirement under art. 44(1) of EMIR that a clearing member group together shall not provide more than 25 % of the credit lines needed by the CCP, NCAs could ask the supervised CCP to demonstrate that the capacity of credit lines in excess of the 25% threshold is not required to pass the liquidity stress testing by providing testing results that do not take that capacity into account.

- **Consideration 3** NCAs could consider enhancing the CCP due diligence framework, to introduce regular due diligence on third parties (including state-owned entities) that provide core liquidity services to the CCP. This could be achieved by conducting due diligence campaigns where a questionnaire – covering operational, cyber, outsourcing and financial aspects - is sent to third parties.

6 Conclusion

210. Concerning the functioning of CCP colleges, the review of colleges' activities during the reporting period remains overall positive. In particular, ESMA appreciated the efforts of chairing NCAs to meet the expectations and best practices highlighted in past peer reviews and with the relevant opinions adopted by ESMA, and to update the colleges on the recent market developments related to the COVID-19 crises. As a general remark, ESMA reminds all chairing authorities that they are expected to promptly review in Q1 2021 the composition of the colleges and their written agreement in order to reflect the recent amendments to Article 18 the EMIR and the related RTS on the functioning of CCP Colleges (Commission Delegated Regulation 876/2013).

211. Regarding the NCA's supervisory activities on the liquidity stress testing (focus of the current peer review) the overall outcome of the peer review is satisfactory. Many answers to the questionnaire were very thorough and provided evidence of the supervisory actions. NCAs reported that, overall they systematically review the CCPs' implementation of the stress testing requirements of the liquidity risk management framework and of the CCP liquidity risk controls through the annual review under Article 21 of EMIR and, where relevant, in the context of formal authorisation under Article 15 of EMIR or validation of significant changes under Article 49 of EMIR. Onsite inspections and deep dives are also often used.

212. However, the peer review showed that the assessment of some areas of liquidity stress testing was not always performed or being evidenced sufficiently. In particular, NCAs should make sure that the settlements of obligations of defaulting clearing members are reflected in full in the liquidity stress testing framework

213. From the provided responses it should also be noted that, as part of the supervision of CCPs, a number of NCAs only rely on desk-based analysis of the documentation to check for example if and how the different clearing member capacities are assessed or how the liquidity exposures are computed.

214. Box 1 below presents the best practices that emerged from the review of NCAs' supervisory approaches with respect to the assessment of liquidity stress testing.

215. Finally, in order to enhance supervisory practices with respect to CCP's liquidity stress testing, the following considerations have been put forward:

- **Consideration 1** From the provided responses, most authorities consider no porting to be the more conservative assumption. ESMA believes that even if this is typically the case, there could be instances where porting or an attempt to port could create further liquidity needs. Thus, NCAs could ask the supervised CCP to complement its stress testing by including the porting assumption when relevant.

- **Consideration 2** To comply with the concentration limit requirement under art. 44(1) of EMIR that a clearing member group together shall not provide more than 25 % of the credit lines needed by the CCP, NCAs could ask the supervised CCP to demonstrate that the capacity of credit lines in excess of the 25% threshold is not required to pass the liquidity stress testing by providing testing results that do not take that capacity into account.

- **Consideration 3** NCAs could consider enhancing the CCP due diligence framework, to introduce regular due diligence on third parties (including state-owned entities) that provide core liquidity services to the CCP. This could be achieved by conducting due diligence campaigns where a questionnaire – covering operational, cyber, outsourcing and financial aspects - is sent to third parties.

Box 1: Best Practices

Best practice 1 To ensure that the liquidity management framework can withstand the default of any two clearing members, NCAs could request that the selection of those clearing members should be made based on the largest liquidity exposures.

Best Practice 2 NCAs could request that the liquidity stress tests use at least all the market scenarios used to size the default funds, taking into account that the market scenarios used for the purpose of liquidity stress testing are built to assess daily liquidity needs of the CCP, while the credit stress scenarios aim to evaluate the overall loss occurring over the whole liquidation period. Using the same scenarios enhances consistent assumptions regarding variation margin flows.

Best Practice 3 NCAs should request CCPs to assess, as much as possible, all clearing member capacities simultaneously. Testing some capacities through further analysis can lead to the selection of 2 clearing members that would not create the largest liquidity combined exposure.

Best Practice 4 From the provided responses it was clear that, as part of the supervision of CCPs, some NCAs only rely on desk-based analysis of the documentation to check if and how the different clearing member capacities are assessed. Given the complexity of the topic and the implementation challenges, ESMA believes that it could be useful for NCAs to check that based on the methodology provided they can replicate or reconcile the calculations made by the CCPs. Such analysis could be performed during on-site inspections or when assessing model changes.

Best practice 5 NCAs could consider enhancing their supervisory approach to make sure that the settlements of obligations of defaulting clearing members are reflected in full in the liquidity stress testing framework. In particular, the CCP would need perform the necessary actions (such a buy-ins) to fulfil the securities giving obligations of the defaulter as they fall due.

Best practice 6 NCAs could request CCPs to at least monitor the liquidity risk generated by the default of at least the two entities (and entity groups), including clearing members, interoperable CCPs or any entities that provide services to the CCP, to which they have their largest liquidity exposures (Liquidity risk ‘Cover-2’).

Best practice 7 NCAs could require the CCPs to exclude excess resources from the liquidity stress testing. The methodology used to identify which collateral is considered excess collateral should be clearly set out.

Best practice 8 NCAs could consider enhancing their supervisory approach to ensure that for each instrument, all settlements (including securities) are assumed to be happening as they fall due. Moreover, NCAs could require the CCPs to demonstrate that the assumptions made on the timing of the liquidation of collateral, as well as the highly reliable nature of funding arrangements to convert highly marketable financial instruments into cash, for instance, via repo markets in stressed market situations, are prudent.

Best practice 9 NCAs could consider enhancing their supervisory approach to ensure that the rulebook clearly states which type of collateral or margin of a clearing member can be used to cover liquidity needs caused by the default of another clearing member.

Best practice 10 NCAs could request CCPs to run their stress testing framework before accepting to novate over the counter trades. Alternatively, NCAs could ask CCPs to calculate and monitor daily risk limits at clearing member or account level in order to intervene ahead of a potential breach of stress testing requirements.

Annex 1 – Survey Questionnaire

1 General Information

1.1 Information on CCPs and supervisory activities

1. Please indicate in the table below the CCPs you supervise, and the dates of the supervisory reviews conducted in the reference period with respect to the CCP's liquidity stress testing (LST).

   In particular, please, indicate whether such reviews where conducted in the annual review(s) under Article 21 of EMIR, any validation of significant change affecting liquidity stress testing under Article 49 of EMIR, any risk assessment related to an extension of authorisation under Article 15 of EMIR implying new or amended liquidity stress testing, the number of non-significant changes that affected the CCPs' liquidity stress testing.

CCP(s)	**Supervisory activities related to CCP's liquidity stress testing (LST)**				
	Annual Review of LST	Validation of significant changes to LST	Extension of authorisation incl. new LST	Non-significant changes to LST	Other activity involving review of LST
	dd/mm/yyyy	dd/mm/yyyy (description) dd/mm/yyyy (description)	dd/mm/yyyy (description) dd/mm/yyyy (description)	XX (description)	dd/mm/yyyy (description)

2. Please indicate in the table below any supervisory activity related to LST that was included in the annual supervisory work plan for 2018, 2019 and 2020 as input to the yearly review of the CCP compliance with the scope requirements pursuant to Article 21 of EMIR[5], whether including on-site inspections or not, the deadline for completion and its current status.

CCP	**Supervisory Activity**	**Reference EMIR/RTS Article**	**Description**	**Year**	**On-site inspection**	**Status and Deadline**
				2018, 2019 or 2020	Y/N	closed/open dd/mm/yyyy

Please, attach to your answer any related NCA's report documenting the outcome of the respective supervisory review (where available in English, otherwise in the participating authority's working language[6]).

[5] See footnote 5.
[6] A translation in English could be requested by ESMA staff in follow-up interactions.

1.2 Organizational setup of the relevant Competent Authority(-ies)[7]

3. Please, indicate in the table below the competent authorities that have direct supervisory responsibilities to assess the CCP's LST compliance with EMIR Article 44 and related RTS, specifying the internal department in charge of the supervisory activities and the number of Full-Time-Equivalent staff members (FTEs) assigned to such activities, and whether internal procedures, guidelines or other tools have been developed to help staff dealing with these supervisory activities related to LST. (If yes, please describe them and provide a copy of the relevant documentation).

Competent Authority	**Internal Department**	**Reference EMIR/RTS Article**	**N. of FTEs**	**Internal procedures/ handbook/guidelines/ other tools**
				Y/N

Please, explain and provide a copy/extract of the relevant competent authority's organizational chart or a list of staff members involved in the supervisory activities related to LST, with an indication of their title, seniority and background. If applicable, please describe and provide a copy (where available in English, otherwise in the participating authority's working language[8]) of the internal procedures, handbook, guidelines or other tools that have been developed to assist supervisors dealing with these supervisory activities related to LST. If more than one competent authority has shared responsibility in conducting supervisory activities related to LST, please, explain how cooperation between authorities is ensured and how the relevant activities are coordinated. If applicable, provide any relevant cooperative arrangement (e.g. MoU, information sharing agreement) related to such activities.

[7] According Article 30(a) of ESMA regulation, the peer review shall inter alia include an assessment of the adequacy of resources and governance arrangements of the competent authority […].
[8] A translation in English could be requested by ESMA staff in follow-up interactions.

2 Supervisory activities on liquidity stress testing

Competent authorities should assess whether CCPs comply with the regulatory provisions as detailed in **Error! Reference source not found.** and specifically

a. Stress testing requirements of the liquidity risk management framework as set out in Article 44 (Liquidity risk controls) of EMIR and related RTS (namely Article 48, 51, 54, 56 and 59 of RTS 153/2013 on requirements for CCPs).

b. Liquidity risk controls and stress testing as set out in Article 44 (Liquidity risk controls) of EMIR and related RTS (namely Articles 32(4 and 5) of RTS 153/2013 on requirements for CCPs).

and whether competent authorities in doing so are complying with relevant provisions in the CPMI-IOSCO PFMI and with ESMA opinion on CCP Liquidity Risk Assessment under Article 44(1) of EMIR of 2018.

When a competent authority reports that it checks a specific point, it should specify whether this is performed through off-site supervision (i.e. considering documents provided by the CCP as a proof of the implemented methodology) or by checking directly during an on-site inspection if the documents provided reflect the actual practice.

Question 1. Liquidity stress testing scenarios

The NCAs are invited to describe the criteria and conditions they use to assess that the liquidity stress test scenarios satisfy the requirement of RTS Art 32, 48, 51 and 54.

Please answer the following questions.

a. What do you ask a CCP to demonstrate that it takes into account the liquidity risk generated by the default of at least the two clearing members to which it has its largest exposures? (Liquidity risk 'Cover-2')

b. Do you check if the liquidity stress testing uses all the market scenarios used to size the default fund? If some of those scenarios are excluded, did you check why? Did you check if other market shock scenarios were considered? How do you assess the consistency between credit stress test scenarios and the variation margin flows in the liquidity stress test scenarios?

c. Do you check that the below capacities of the defaulting clearing members are simultaneously considered?

   i. Clearing members
   ii. Issuers
   iii. Custodians
   iv. Resource Providers
   v. Repo Counterparties
   vi. Payment Banks
   vii. Institutions for liquidity provision

d. For each of the above, if applicable, how do you assess that the capacity of the defaulting entity is correctly reflected in the scenario?

e. How do you assess that the settlement of obligations (including deliveries of securities) of defaulting clearing members is correctly modelled?

f. When determining 'Cover-2', do you check that the CCP tests the default of every pair of clearing members acting in all their different capacities vis-à-vis the CCP and selects the pair that corresponds to the largest exposure? If not, does the CCP takes the 2 largest individual exposures of the clearing members (i.e. computed independently)? If not any of the above, please specify the methodology.

g. Do you assess if the CCP assesses the liquidity risk generated by the default of at least the two entities (not necessarily clearing members) to which it has the largest combined exposure?

h. How do assess that the CCP takes into account the possible technical / financial failure of settlement bank, nostro agents, liquidity providers in its liquidity stress test scenarios?

i. How do you assess that the CCP takes into account possible contagion effects (due to some technical linkage, being part of the same group, etc.) due to stress test defaults and their effect(s) on resulting liquidity need?

j. How do you assess that porting is considered? Do you check if both the porting and absence of porting are included in the scenarios?

Question 2. Assessment of the liquidity position of the CCP

The NCAs are invited to describe how the liquidity position of the CCP is assessed in a given liquidity stress test scenario to satisfy the requirements of RTS Art 32, 33, 48, 51 and 54.

The NCAs are asked to answer the following questions.

Resources

a. What do you ask CCPs to make sure that the liquid resources considered in the stress testing are limited to the ones listed in RTS Art 33?

b. Do you check whether

   i. margins / resources called but not yet paid are excluded?

   ii. excess resources are excluded?

   iii. lines of credit or equivalent arrangements with non-defaulting clearing members are committed?

   iv. repurchase agreements are committed?

   v. a clearing member, parent undertaking or subsidiary of that clearing member together does not provide more than 25% of the credit lines needed by the CCP?

c. When excess resources are excluded, do you check the assumptions made on the type of collateral excluded?

d. What do you ask CCPs to assess the availability and reliability of funding arrangements?

e. Do you check whether

    i. CCPs conduct due diligence of their liquidity providers;

    ii. CCPs test the reliability of their liquidity resources, including in stressed conditions, through fire drills / war games;

    iii. CCPs ensure the timeliness of liquidity provision through their funding arrangements, in particular on an intraday basis;

f. Do you check which of the following collateral is assumed eligible for the repurchase agreements?

    i. Government bonds

    ii. Other fixed income securities

    iii. Equities

    iv. Others, please specify

g. Do you check that the maximum capacities of such credit and repo lines are considered?

h. How do you check the availability and the enforceability of ex-ante back-up liquidity arrangements under stressed conditions?

i. With regards to non-committed liquid resources, how do you check that such funding arrangements are pre-arranged and reliable, and what standards do you expect for such assessment?

j. Do you check that the collateral is valued consistently with the market scenarios?

<u>Payment and settlement obligations</u>

k. Have you assessed if for each instrument, all settlements are assumed to be happening as they fall due (i.e. no delayed settlement is assumed)?

l. In particular, do you check

    i. If deliveries of securities to non-defaulting clearing members are assessed at ISIN level?

    ii. If net deliveries to a non-defaulting clearing member are netted with receipts of the same security happening at a different date?

    iii. How are securities that should have been delivered to a defaulting CM accounted for?

m. Have you checked when is the cash assumed to be available when liquidating collateral or securities in the market?

n. Did you check whether a full market access is assumed more generally? In such case, is the closure of such markets tested?

o. Do you assess if large positions are dealt with differently?

p. Do you assess if and how the CCP accounts for outflows such as business as usual outflows and provision of liquidity to facilitate settlement needs?

Multi-currency

q. How do you assess the clearing in multiple currencies when relevant? Do you check how CCPs address their liquidity position in individual currencies? Do you check how CCPs assess the significance of each currency, and whether they have a different approach for minor currencies?

r. In particular, is the liquidity position in each currency tested before assuming any access to the foreign exchange market?

s. Do you check which instruments are used when using excess liquidity in a currency to cover a shortfall in another? Please specify the instruments used and whether they create further market risk for the CCP. Did you check that the CCP has readily market access to those instruments?

Scope / Usage of resources

t. How do you assess the assumptions made with regards to the allowed usage of resources?

u. When margins of a clearing member are used to cover liquidity needs caused by the default of another clearing member, did you check that this is clearly stated in the rulebook?

v. Did you check whether resources from a default fund could be used to cover a shortfall in another default fund or at CCP level?

Computing the liquidity exposures

w. Do you check whether the computed liquidity exposures consistently reflect the actual settlements and deliveries related to cleared products and the change in collateral values for each scenario?

x. Do you check whether the liquidity exposure is assessed on each day of the liquidation horizon?

Question 3. Usage and analysis of the stress tests results

The NCAs are invited to describe the criteria and conditions they use to assess that stress test results analysis and usage satisfy the requirements of RTS Art 54, 56 and 59.

The NCAs are asked to please provide answers to the following questions.

a. How do you make sure that the CCP measures, on a daily basis, its potential liquidity needs?

b. How do you assess that CCPs have clear and transparent rules and procedures to address insufficient liquid financial resources highlighted by their stress tests to ensure settlement of payments obligations?

c. How do you assess that the CCPs have clear procedures for using the results and analysis of their stress tests to evaluate and adjust the adequacy of their liquidity risk management framework and liquidity providers?

d. Do you check that the CCP, in reviewing its models, their methodologies and the liquidity risk management framework, monitor the frequency of reoccurring testing exceptions to identify and resolve issues appropriately and without undue delay?

e. Do you check if the CCP runs the stress testing framework before accepting to novate over the counter trades?

f. Do you check that the CCP monitors and requires clearing members to prefund upcoming settlements when a potential liquidity gap has been identified in the future?

g. How do you assess that the CCP manages the liquidity risk arising from on market trades? How do you assess the addons collected to cover the liquidity risk from those trades? Are they always called ex post?