

Assessment of LCH.Clearnet
Limited against the
CPSS-IOSCO recommendations
for Central Counterparties

21 December 2009

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1 Introduction

Assessors and objective

Assessors: The Financial Services Authority (FSA) and the Bank of England (BoE).

Objective: To assess the current method LCH.Clearnet Limited uses in order to manage financial, market and other risks LCH.Clearnet Limited faces as a central counterparty (CCP). The (re)assessment has been conducted in order to comply with the internationally recognised 'Recommendations for Central Counterparties' developed jointly by the Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organisation of Securities Commissions (IOSCO).

LCH.Clearnet Limited is seeking to obtain verification from the FSA and the BoE in respect of the statements made in this self-assessment. At the same time, LCH.Clearnet Limited has been mindful of the questions set out in the ESCB-CESR draft recommendations for Central Counterparties in its responses.

Scope of the assessment

The assessment focuses solely on LCH.Clearnet Limited, the main CCP active in the UK's financial markets. LCH.Clearnet Limited is regulated by the FSA as a Recognised Clearing House ("RCH") pursuant to the Financial Services and Markets Act 2000 ("the Act"). The inter-bank payment system operated as part of LCH.Clearnet Limited has been recognised by HM Treasury for oversight by the Bank of England under Part 5 of the Banking Act 2009.

Where relevant, this assessment takes into account the fact that LCH.Clearnet Limited is a wholly owned subsidiary of LCH.Clearnet Group Limited.

LCH.Clearnet Group Limited is a private company, limited by shares and registered in the United Kingdom. It is a holding company created as part of a merger in December 2003 to oversee the two wholly-owned operating subsidiaries of the Group; LCH.Clearnet Limited (formerly The London Clearing House Limited), and Banque Centrale de Compensation SA (which trades under the name of LCH.CLEARNET SA and became an independent legal entity at the time of the merger, having previously been part of the Euronext group of companies).

Scope of coverage of the CCP

LCH.Clearnet Limited provides CCP services for:

- London Stock Exchange (LSE);
- NYSE Euronext.LIFFE (LIFFE);
- London Metal Exchange (LME);

- EDX London;
- SIX Swiss Exchange;
- Nodal Exchange;
- RepoClear / SwapClear; and
- Other European Multilateral Trading Facilities (MTFs)

LCH.Clearnet Limited is the leading independent CCP in Europe, serving major international exchanges and platforms, as well as a range of OTC markets. It clears a broad range of asset classes including: securities, exchange traded derivatives, energy, freight, interbank interest rate swaps and euro and sterling denominated bonds and repos. LCH.Clearnet Limited operates in a number of currencies including Sterling, Euro and US Dollars. Further details on the markets served can be found on LCH.Clearnet Limited's website¹.

Institutional and market structure

- Cash equity trading is undertaken via the LSE, SIX Swiss Exchange, Equiduct and Plus Markets cleared by LCH.Clearnet Limited (as CCP), and settled in CREST, Euroclear Bank SA/NV (Euroclear)² and SegalInterSettle (SIS)³, as securities settlement systems (SSSs).
- Bond trading is undertaken via multilateral trading facilities, bilateral trading systems, voice brokers, etc., cleared by LCH.Clearnet Limited as CCP and settled at CREST, Euroclear and Clearstream as SSSs.
- Financial derivatives are traded at LIFFE and EDX, and commodity derivatives at the LME and LIFFE, with clearing taking place at LCH.Clearnet Limited. Almost all instruments (with the exception of certain commodities and metals) go to cash settlement on expiry rather than physical delivery.
- LCH.Clearnet Limited together with Nodal Exchange provides trading and clearing of cash settled financial Nodal power contracts in North America.
- LCH.Clearnet Limited provides clearing services to all areas of the marketplace. In terms of volume cleared by LCH.Clearnet Limited, the overall trade volume for 2008 was just over 2 billion contracts.

Market and general information

The collapse of a major financial institution in September 2008 occurred during extremely volatile market conditions. This was a significant event for LCH.Clearnet Limited, and was the largest and most complex default in LCH.Clearnet Limited 120 year history.

¹ <http://www.lchclearnet.com/>

² International Central Securities Depository (ICSD)

³ SIX SIS AG CSD

The default affected both LCH.Clearnet Limited and SA entities. Across the group LCH.Clearnet Limited and SA were counterparty to position values amounting to tens of trillions of US Dollars for a range of asset classes, including: bonds, equities, futures, options, repos and swaps.

As events unfolded, LCH.Clearnet Limited's priority was to:

- Ensure the risk was managed to an acceptable level;
- Apply macro hedges where appropriate and successfully manage on an ongoing basis;
- Manage the requests from end clients to transfer their derivative positions to other member banks;
- Close out and /or sell on proprietary positions, predominantly through a sealed bid process;

As a result:

- LCH.Clearnet Limited's risk exposure was mitigated within a week of the default by over 90%;
- Within 3 weeks, a few negligible positions remained; these were managed within the initial margin held;
- LCH.Clearnet Limited did not have recourse to use the Default Fund.

The management of the default totalling USD 9 trillion OTC interest rate swap positions was particularly successful, illustrating how effective an industry-led solution can be. The SwapClear default management process was put to the test and proved to be successful, due to the strong commitment from SwapClear members who supported the process, providing dedicated resources despite extremely volatile market conditions.

In January 2009, LCH.Clearnet Limited extended the RepoClear service to include euro-denominated Explicit Government Guarantee Bonds (EGGBs). EGGBs are guaranteed by a European national government and issued as part of that national government's guarantee scheme. The guarantee afforded to these bonds enables LCH.Clearnet Limited to classify them as Agency Bonds within RepoClear's International Bond segment.

Regulatory structure

LCH.Clearnet Limited is incorporated in the UK as a private limited company, and as such is subject to UK company law. It is regulated by the FSA:

- as a Recognised Clearing House (RCH) under the Financial Services and Markets Act 2000 (FSMA);
- subject to the Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001 (SI 2001/995) (the Recognition Requirements);
- according to the FSA's specialist sourcebook 'Recognised Investment Exchanges and Recognised Clearing Houses' (REC);

- designated under the Financial Markets and Insolvency Regulations 1999 (SI 1999/2979) (the Settlement Finality Regulations);

it is also:

- a Derivatives Clearing Organization in the USA and subject to Commodity Futures Trading Commission (CFTC) rules and the US Commodity Exchange Act; in each case as amended from time to time; and
- holds temporary Exemptive Relief from the U.S. Securities and Exchange Commission (“SEC”) to clear Credit Default Swap Indices in the U.S.

LCH.Clearnet Limited has an embedded payment arrangement, known as the Protected Payment System (PPS), which is used to transfer funds to and from its members. The inter-bank payment system operated as part of LCH.Clearnet Limited has been recognised by HM Treasury for oversight by the Bank of England under Part 5 of the Banking Act 2009. Further information about the Bank’s approach to statutory oversight is set out in *The Bank of England’s oversight of interbank payment systems under the Banking Act 2009*. The BoE must also be consulted about the designation of embedded payment arrangements under the Settlement Finality Regulations.

Information and methodology used for the assessment

The assessment uses the recommendations and the methodology developed jointly by the CPSS and IOSCO as set out in their report entitled ‘Recommendations for Central Counterparties’ published in November 2004⁴.

A review was conducted of LCH.Clearnet Limited’s current policies and procedures, including public information available on LCH.Clearnet Limited’s website and where applicable, legislative or regulatory changes relating to each area of the business identified in the CPSS-IOSCO recommendations. The responses were then reviewed and discussed with management of LCH.Clearnet Limited to verify the information that formed the answers to the key questions.

Identification is made to the main sources of information used in making the assessment, e.g. written documentation (inc. previous CPSS-ISOCO assessment text), policies, surveys through oral discussions, reports, studies, public or non-public documents. Where possible (and applicable) the sources of information are referenced.

⁴ <http://www.bis.org/publ/cpss64.pdf>

2 Assessment of observance

Executive summary

Following the initial assessment conducted in 2006 by the FSA and the BoE, LCH.Clearnet Limited have undertaken a review and re-assessment against the CPSS-IOSCO recommendations for CCPs (whilst being mindful of the ESCB-CESR draft recommendations for Central Counterparties recently published). Together these recommendations represent an internationally developed and agreed minimum standard of good practice that systemically important CCPs should seek to achieve.

LCH.Clearnet Limited observes 14 of the 15 recommendations. 1 recommendation is broadly observed. The results are depicted in Table 1 below: LCH.Clearnet.Limited broadly observes Recommendation 9 (money settlements). LCH.Clearnet.Limited would need to take further actions to strictly limit the credit and liquidity risks arising from its use of commercial banks to effect money settlements with its participants in order to observe Recommendation 9.

Table 1: Collation of assessment results by assessment category

Assessment category	Recommendation
Observed	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15
Broadly Observed	9
Partly Observed	
Non-Observed	
Not Applicable	

Recommendation by recommendation assessment of observance

Recommendation 1 - Legal risk

CCPs linked or interoperable CCPs should have a well-founded, transparent and enforceable legal framework for each aspect of their activities in all relevant jurisdictions.

Question 1 (Clarity, coherence and availability of laws and regulations)

As a private limited company incorporated in the UK, LCH.Clearnet Limited is subject to UK company law. As a Recognised Clearing House (“RCH”) it is subject to FSMA, the Recognition Requirements and the REC part of the FSA Handbook. The inter-bank payment system operated as part of LCH.Clearnet Limited has been recognised by HM Treasury for oversight by the Bank of England under Part 5 f the Banking Act 2009. Other regulators place reliance upon the FSA’s and BoE’s supervision and oversight functions.

LCH.Clearnet Limited holds certain registrations with U.S. regulators. LCH.Clearnet Limited has been approved as a Derivatives Clearing Organization (“DCO”), with the US Commodity Futures Trading Commission (“CFTC”) to provide clearing and settlement services within the U.S. financial services sector. LCH.Clearnet Limited has also been granted temporary Exemptive Relief from the U.S. Securities and Exchange Commission (“SEC”) to clear Credit Default Swap Indices in the U.S.

LCH.Clearnet Limited members are subject to the rules made by LCH.Clearnet Limited in the conduct of their business. All applicable legislation, regulations and rules are publicly available on the relevant websites⁵.

There is no evidence (for example, through successful legal challenges) that the applicable legislation, regulations and rules are not internally consistent.

Question 2 (Effectiveness of laws and regulations)

LCH.Clearnet Limited operates as a central counterparty (CCP) in Europe, serving major international exchanges and platforms, as well as a range of OTC markets. All members enter into registered contracts as principal rather than agent, whether or not they are acting on behalf of a client. LCH.Clearnet Limited’s rules and other procedures cover all significant features of its operation as CCP and are enforceable against members by virtue of the contractual relationship.

LCH.Clearnet Limited novates (legally registers) trades as soon as they have been conducted and have been received by its systems. LCH.Clearnet Limited as the CCP assumes the credit risk.

⁵ <http://www.opsi.gov.uk> (for national legislation and statutory instruments), <http://fsahandbook.info/FSA/html/handbook/REC> (for FSA rules), <http://www.lchclearnet.com> (for LCH rules), <http://www.cftc.gov> (for Derivatives Clearing Organization rules)

Further assurance on finality issues is provided by LCH.Clearnet Limited's designation under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999, implementing the EU Settlement Finality Directive in the UK (Directive 98/26/EC). These regulations reduce the risks associated with participation in designated payment systems by minimising the disruption caused by insolvency proceedings against certain participants in the system.

Question 3 (Enforceability of rules, procedures and contracts on member default)

LCH.Clearnet Limited is protected by a recently updated Part VII of the Companies Act 1989 (Part VII) from the general application of the financial markets insolvency laws of England and Wales. In the event of a member default, Part VII protects LCH.Clearnet Limited's rights to manage the default by – for example – netting positions or offsetting profits and losses, and prevents a liquidator from 'cherry-picking' profitable contracts. The default rules, as protected by Part VII, apply to all (UK and non-UK) members.

Further protection comes from LCH.Clearnet Limited's designation under the Settlement Finality Regulations. This protection further reduces any possibility that English courts would entertain a challenge to the actions taken by LCH.Clearnet Limited to manage a member default.

The recent default by a major financial institution (September 2008), was successfully managed and the resulting exposure was well within the margin held for that institution. LCH.Clearnet Limited did not need recourse to the Default Fund. By working closely with market participants, market orderliness was maintained. Since 1990 there have been a limited number of cases of member default and the actions LCH.Clearnet Limited has taken have not been subject to legal challenge in the UK. But, given the protections afforded by both Part VII and the Settlement Finality Regulations, we do not believe there is any significant risk that actions taken by LCH.Clearnet Limited in managing a future default would be subject to successful legal challenge.

Question 4 (Conflicts of laws)

LCH.Clearnet Limited continues to take steps to check the adequacy of its legal framework for cross border participation. Recognising that the protections of the Settlement Finality Regulations are limited to EU Members, LCH.Clearnet Limited continues to take legal advice in the US and other countries regarding the enforceability of its charge and other methods of taking collateral. Non-UK members wishing to lodge non-cash collateral have to provide a legal opinion to demonstrate that the charge would be enforceable in their country and/or highlight any relevant issues.

Although LCH.Clearnet Limited's netting arrangements are subject to local insolvency regimes, the resulting legal risk is minimised through the holding of collateral and other stock in countries where LCH.Clearnet Limited is more comfortable with local enforceability and local insolvency law and wherever possible in accounts in its own name. LCH.Clearnet Limited has procured external legal advice on several foreign jurisdictions' enforceability issues.

LCH.Clearnet Limited is designated under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999, implementing the EU Settlement Finality

Directive in the UK (Directive 98/26/EC). These regulations significantly reduce the risks associated with participation in designated payment systems by minimising the disruption caused by insolvency proceedings against certain participants in the system.

Assessment: Observed

Recommendation 2 - Participation requirements

A CCP should require participants to have sufficient financial resources and robust operational capacity to meet obligations arising from participation in the CCP. A CCP should have procedures in place to monitor that participation requirements are met on an ongoing basis. A CCP's participation requirements should be objective, publicly disclosed, and permit fair and open access. Rules and requirements that restrict access should be aimed at controlling risk.

Question 1 (Financial and operational requirements)

LCH.Clearnet Limited has established minimum requirements for its members' financial resources which vary depending on the markets to be cleared and the type of membership. For example, LCH.Clearnet Limited – in coordination with the exchanges served by LCH.Clearnet Limited – sets minimum requirements for the net capital and core capital of exchange clearing members. The required minimum levels applicable to the clearing of any one exchange vary according to the range of clearing business undertaken, with the requirement for the clearing of own business being the lowest and the requirement for the clearing of the business of other exchange members being the highest.

There are higher minimum capital requirements in non-exchange markets, reflecting the inter-professional nature and high volume/value of transactions on those markets. The minimum capital requirement of a member clearing more than one market or product is the sum of the minimum capital requirements for each market or product.

LCH.Clearnet Limited requirements are not additional to financial regulatory requirements, but if the regulatory requirements are lower than the LCH.Clearnet Limited minimum, additional resources must be provided.

In terms of creditworthiness, members are given a credit score which serves to focus LCH.Clearnet Limited's monitoring activities (see answer to Question 2 below). Credit evaluations of each member are established using primary inputs of financial reports and regulatory returns, external credit ratings, LCH.Clearnet Limited's own evaluation of standards of management and control, and in certain circumstances information received under information-sharing agreements.

In terms of operational capability, LCH.Clearnet Limited requires that members have:

- arrangements to effect payment obligations to LCH.Clearnet Limited;
- arrangements to effect collateral and delivery obligations to LCH.Clearnet Limited;
- staff with appropriate experience and training; and
- a board and senior management conforming to suitable standards of fitness and propriety.

All members must have money settlement arrangements with a PPS bank, through which cash margin payments to and from LCH.Clearnet Limited, payments for physical deliveries under commodity contracts, cash settlements and contributions to the Default Fund are made.

The PPS arrangements operate both in the UK and the USA. Each member is required to maintain a PPS bank account(s) in London in GBP and for each currency

in which it incurs settlements at one of the participating PPS banks. The UK-based arrangements operate until 16:00 London time. Furthermore, members are also required to have PPS banking arrangements in the USA under the US PPS scheme which is utilised after the UK cut-off time for PPS.

In addition, all members must have the necessary CSD or SSS facilities necessary to meet their delivery obligations.

Question 2 (Monitoring of requirements)

LCH.Clearnet Limited monitors that membership requirements are met on an ongoing basis via member risk assessments and takes a risk-based approach to the assessments. Less credit-worthy members and members who are not subject to external regulation and /or credit rating are subject to closer monitoring. LCH.Clearnet Limited also pays particular attention to positions that are large in relation to either a member's financial resources or to open interest in a particular contract or product group.

All clearing members must submit annual accounts within six months from the date their accounts are signed off. In addition, non-regulated clearing members must provide LCH.Clearnet Limited with a quarterly balance sheet within 30 days of their quarter-end date. Furthermore, members are required to notify immediately LCH.Clearnet Limited of significant decreases in their capital and of any additional information relevant to their financial health and clearing membership.

As per LCH.Clearnet Limited Rules and Regulations, members wishing to terminate their clearing member status can do so by providing not less than three months notice of its intended termination. If a clearing member has not been active on any exchange or market for a continuous period of three months, they will be asked to confirm that they intend to use their clearing member status or be asked to resign. Clearing members would only be suspended or terminated in extreme cases, if they failed to adhere to the rules, regulations and requirements of the clearing house.

Question 3 (Objectivity and disclosure of participation requirements)

Membership criteria are clearly set out on the LCH.Clearnet Limited website and under section 1 of the Rule book (Clearing Member, Dealer and Other Non-Clearing Member Status)⁶. Any additional participation requirements are set on the basis of a credit judgement about the potential member concerned. LCH.Clearnet Limited has procedures in place to facilitate the orderly exit of members. LCH.Clearnet Limited or the member firm is separately able to terminate membership with three months' notice. The member is obliged to close out all positions within this period before its membership finishes. LCH.Clearnet Limited will help the member through this process as necessary. LCH.Clearnet Limited publishes a summary of the process on its website.⁷

Assessment: Observed

⁶ <http://www.lchclearnet.com>

⁷ <http://www.lchclearnet.com/membership/ltd/default.asp>

Recommendation 3 - Measurement and management of credit exposures

A CCP should measure its credit exposures to its participants at least once a day. Through margin requirements and other risk control mechanisms, a CCP should limit its exposures to potential losses from defaults by its participants so that the operations of the CCP would not be disrupted and non-defaulting participants would not be exposed to losses that they cannot anticipate or control.

Question 1 (Measurement of exposures)

LCH.Clearnet Limited measures its exposures to its members a minimum of three times a day, more frequently in extreme market conditions; the information on which the calculations are based is timely. LCH.Clearnet Limited has routine intra-day capability (the ability to register contracts and recalculate initial and variation margin using real time positions and prices) for all markets except LIFFE and LME where the margin held is tested by significant market price moves.

For all markets margin is calculated overnight and collected in an early morning call the next day (by no later than 9am GMT). For LIFFE and LME, once registered, intraday price moves are assessed to determine the need for an intraday margin call. LCH.Clearnet Limited can call additional margin intra-day if intra-day price movements are severe enough to challenge the adequacy of existing margin.

LCH.Clearnet Limited's monitoring of positions is focused according to its internal credit evaluations and takes the necessary measures to assess effectively and manage operational risk and to limit exposure to operational losses. Particular attention is paid to positions which are large in relation to either a member's financial resources or to open interest in a particular contract or product group that threaten the assumed holding period of the initial margin calculation. Position monitoring looks at house and client accounts both separately and together. If the monitoring gives rise to concerns (particularly about the size of positions in a member's client account) further information is sought, notably about the concentration of individual client positions and the risk management of client related business.

Question 2 (Limitation of exposures)

LCH.Clearnet Limited limits its exposures to potential losses from defaulting members on the basis of its membership requirements (see Recommendation 2), margining (variation and initial margin) and other risk control mechanisms which act as LCH.Clearnet Limited's financial protection against defaulting members in addition to the Default Fund contribution.

While LCH.Clearnet Limited's margin requirements are central to its risk management, LCH.Clearnet Limited also has other measures at its disposal, including:

- additional financial resource requirements (buffers);
- additional initial margin requirements;

- imposition of position limits;
- trading for liquidation only;
- prior authorisation of trades above a certain size; and
- issuing instructions to reduce positions.

LCH.Clearnet Limited also monitors large cumulative profits or losses. If large and unusual trading activity is detected (relative to previous exposures) LCH.Clearnet Limited contact compliance officers and seek assurances from the senior executives or boards of a member firm or parent company.

Assessment: Observed

Recommendation 4 - Margin requirements

A CCP should to the greatest extent feasible impose margin requirements to limit its credit exposures to participants. These requirements should be sufficient to cover potential exposures that the CCP estimates to occur until the liquidation of the relevant positions. The models and parameters used in setting margin requirements should be risk-based and reviewed regularly.

Question 1 (Sufficiency of margin cover)

LCH.Clearnet Limited's initial margin policy provides cover for close-out losses in the event of a member default in all but extreme market conditions (initial margin rates are not set to cover potential losses which reflect legal, settlement or trading costs). The aim of the initial margin setting⁸ is to ensure that each member's potential losses are less than their initial margin set to a confidence level of 99.7%.

The holding period for each contract is set to reflect LCH.Clearnet Limited's assumptions regarding likely market volatility and liquidity. Variation margin alongside initial margin acts as LCH.Clearnet Limited's first line of financial protection against defaulting members.

The margining reflects price movements after the registration of a contract and this takes place at maximum interval of 24 hours. When margin rates are tested by market price moves, LCH.Clearnet Limited will make automatic intra-day calls to refresh its initial margin cover.

LCH.Clearnet Limited can and does make intra-day margin calls when prices are especially volatile (see Recommendation 3). The performance of margin models is assessed daily through the comparison of initial margin held against actual observed profits and losses. In addition, at each review of parameters, LCH.Clearnet Limited assesses the actual level of observed coverage against that intended. LCH.Clearnet Limited will consider the new parameters in the context of intended coverage and both observed and future market volatility. The observed performance of the models is reviewed daily to identify any areas of immediate concern. In addition, parameter reviews are held a minimum frequency of every three months and compared against intended coverage. LCH.Clearnet Limited also backtests the adequacy of the margining algorithms on a monthly basis and reports this to the Risk Committee quarterly; this backtesting which is focussed on whether initial margin calculated is sufficient ensures that the algorithms are consistently reaching the desired level of coverage.

LCH.Clearnet Limited utilises stress testing scenarios covering simultaneous price movements and evaluates the impact of extreme market movements across multiple asset classes on a daily basis.

Question 2 (Ability to make intraday margin calls)

LCH.Clearnet Limited is subject to rules and regulations in collecting margin and collateral in all relevant jurisdictions.

⁸ http://www.lchclearnet.com/risk_management/ltd/overview

LCH.Clearnet Limited's routine intraday margin calls are subject to the call being above the minimum transfer amount of £100,000. In addition, LCH.Clearnet Limited allows for some small intra-day erosion of initial margin levels in markets with full intra-day capability, in order to minimise the number of intra-day calls. LCH.Clearnet Limited has routine intra-day capability (the ability to register contracts and recalculate initial and variation margin using real time positions and prices) for all markets except LIFFE and LME. Intra-day recalculations are made at least three times per day. Additional margin is called either routinely at 13:00 or on an *ad hoc* basis as necessary, up until close of business.

For LIFFE and LME if prices in a contract change by a certain trigger percentage (of the initial margin level for that contract, dependent upon the importance of the contract) during the trading day, LCH.Clearnet Limited will make an intra-day call on members on the basis of their positions the previous night (see Recommendation 3). Where additional funds are required, they are collected in cash through the PPS. Where surplus cover, in cash or non-cash collateral, is available, LCH.Clearnet Limited uses it to satisfy the call. LCH.Clearnet Limited pre-notifies exchange staff of intra-day calls but its full authority to exercise its risk management discretion is the same as it is for increases in initial margin levels. Again, members are not involved in the decision making process.

Question 3 (Collateral acceptability and haircuts)

LCH.Clearnet Limited keeps the collateral lodged by members under constant review and has the discretion to decline any type of collateral used by its members even if it is covered within its policy. The types of collateral that LCH.Clearnet Limited accepts are the most liquid and highest quality financial instruments. These include cash and government debt from certain countries. A full current list is available on LCH.Clearnet Limited's website⁹.

The application of the collateral acceptance policy is subject to audit. The appropriateness of the policy is reviewed annually by the Risk Committee.

Collateral haircuts on all acceptable class of collateral are set by the Risk Management Department and reviewed on a regular basis. If market conditions dictate, haircuts can be changed between these reviews. The instructions are sent to clearing members, detailing the changes in advance of them being made.

Assessment: Observed

⁹ http://www.lchclearnet.com/member_notices/circulars/acceptable_collateral.asp

Recommendation 5 - Other risk controls

A CCP should maintain sufficient available financial resources to cover potential losses that exceed the losses to be covered by margin requirements. For this purpose, the CCP should develop plausible scenarios and conduct stress tests accordingly. At a minimum, a CCP should be able to withstand a default by the participant to which it has the largest exposure in extreme but plausible market conditions.

Question 1 (Stress testing scenarios and default procedures)

Members are required to make a cash contribution to the Default Fund¹⁰ according to the markets that they clear, based on their usage of those markets and subject to minimum levels. Clearing activity is defined with reference to average levels of initial margin (except for Exchange Fund calculation, which also takes into account the average volume of trades).

LCH.Clearnet Limited's Default Fund is designed to withstand the default of the higher of:

- The member with the largest stress testing losses plus other members from the same financial group, together with the simultaneous default of the five least creditworthy members, representing a measure of contagion risk; or
- The second and third largest members by stress testing losses (plus other members from the same financial group).

Daily price movements are monitored closely by the risk management teams and scenarios are updated with new extreme moves as appropriate. The adequacy of the Default Fund is stress tested daily, and uses a combination of:

- historical scenarios (for example, the 1987 stock market crash, Sterling Exchange Rate Mechanism exit, the 1998 bond market crisis, the Long Term Capital Management collapse, Hurricane Katrina and Lehman Brothers default);
- theoretical scenarios (where observed correlations in historical scenarios are stressed further); and
- scenarios which are referenced to capital adequacy levels as specified in the relevant Directive.

In addition, there are internal triggers relating to stress testing losses that ensure that further analysis is carried out on a daily basis for any member that is identified as having a sharp increase in stress testing losses or which are material in the context of their business.

Through the daily analysis process, if LCH.Clearnet Limited identifies that one or more members have stress testing losses of greater than 90% of the Default Fund, procedures are in place to take the necessary course of action to ensure that the member(s) continue(s) to meet their margining obligations to LCH.Clearnet Limited

LCH.Clearnet Limited has approximately 60 scenarios which are run daily across the portfolios of all members. The results of stress testing are integral to the overall member monitoring undertaken by the Risk Management Department, and in that

¹⁰ http://www.lchclearnet.com/images/lch.clearnet%20ltd%20-%20default%20protections_tcm6-44534.pdf

respect form part of the routine oversight and monitoring of members. Stress test results are assessed daily by senior management.

The results of stress testing also inform the 'Default Fund adequacy exercise', undertaken each quarter by the Risk Committee and reported to the Board. If the results of stress testing move beyond certain trigger points between quarterly assessments, the Secretary of the Risk Committee is obliged to report to the Chairman of the Risk Committee (who is an independent non-executive director) and the Chief Executive Officer. If they consider it necessary they would convene a special meeting of the Risk Committee. In any case, the Secretary of the Risk Committee is obliged to provide a full report with recommendations at the next meeting of the Risk Committee.

The Default Fund is held as secured cash deposits at a number of financial institutions. LCH.Clearnet Limited has a clear policy on actions to be taken in the event that stress testing results indicate resources are not likely to be adequate to meet LCH.Clearnet Limited's obligations resulting from a default. LCH.Clearnet Limited has adhered to this policy in the past, and the policy is available to market participants and authorities.

Question 2 (Financial resources in the event of a default)

The Default Fund totals approximately £600m. Additionally, for SwapClear related losses only, LCH.Clearnet Limited can apply a further £50m from each non-defaulting SwapClear member.

LCH.Clearnet Limited has withstood five member defaults, including most recently the default of a large major financial institution, and has not once had cause to utilise the Default Fund.

Question 3 (Any financial resources not immediately available)

LCH.Clearnet Limited has €100m of uncommitted guidance lines, along with an LCH.Clearnet Limited Board set minimum daily liquidity target of €1.5bn in various currencies. LCH.Clearnet Limited's Treasury meets this target using a combination of overnight unsecured and tri-party repos. LCH.Clearnet Limited has no committed credit lines in place.

LCH.Clearnet Limited Default Fund rules set out the steps taken in respect of the reduction of losses on a default which ensure that the resources made available from a defaulter's own contribution are used before recourse to other financial resources.

Assessment: Observed

Recommendation 6 - Default procedures

A CCP's default procedures should be clearly stated, and they should ensure that the CCP can take timely action to contain losses and liquidity pressures and to continue meeting its obligations. Key aspects of the default procedures should be publicly available and tested regularly.

Question 1 (Default procedures)

LCH.Clearnet Limited's default rules are published on its website¹¹. A default is defined as '...a member appearing to the Clearing House to be unable or to be likely to become unable to meet his obligations...' permitting some discretion in deciding what constitutes a default. The default procedures give wide discretion to LCH.Clearnet Limited to manage the situation in the most appropriate way and to permit the optimum application of the defaulter's financial resources lodged with LCH.Clearnet Limited.

Question 2 (Enforceability of default procedures)

Part VII and designation under the Settlement Finality Regulations give a significant assurance that the decisions taken would not be stayed or reversed. Member and client assets are treated separately under the default arrangements and under UK insolvency law.

The default rules specify the legal framework for the actions that LCH.Clearnet Limited can take in the event of a clearing member appearing to be unable, or to be likely to become unable, to meet their obligations in respect of one or more contracts. LCH.Clearnet Limited may take such steps as detailed in Rule 6 (of the default rules) as and when the circumstances arise.

Question 3 (Internal plans for default management)

LCH.Clearnet Limited has an internal Default Management Framework that provides the framework for single or multiple product default management. The objective of the Framework is to provide a reference guide and high-level operational procedures manual to assist in the process of managing issues which will arise as a consequence of a potential or actual default of a member, and arrangements for each of the business streams.

LCH.Clearnet Limited ensures that consideration is given where possible to aid and assist the member who is in trouble, prior to calling the firm into default. As set out in Rule 3 of the default rules, when a member is called into default, LCH.Clearnet Limited's responsibility is the "discharge of the defaulter's rights and liability under or in respect of all contracts to which the firm is part". In applying these principles, LCH.Clearnet Limited aims to:

- minimise the impact on the membership and fulfil obligations where possible towards remaining members;
- minimise losses for LCH.Clearnet Limited and protect the Default Fund (by closing out the defaulter's portfolio at minimal cost) and;

¹¹ http://www.lchclearnet.com/Images/Default%20Rules_tcm6-43736.pdf

- maintain market integrity.

All the plans for managing a default are subject to the discretion and assessment, at the time, of the Chief Executive of LCH.Clearnet Limited, who has overall responsibility for placing a member in default.

To ensure familiarity with the default policies and procedures, workshops, desk top reviews and fire drills are conducted internally on a regular basis and were successfully utilised during the default of a major financial institution in September 2008. A “lessons learnt from the recent default experience” exercise has been conducted and all material items identified are in the process of being addressed. The end to end testing of the default policies, fire drills and communication co-ordination will continue during 2009 The Executive and Risk Committees review the Default Management Framework annually.

Question 4 (Default procedures publicly available)

As previously noted, the default rules are available on LCH.Clearnet Limited’s website.

Assessment: Observed

Recommendation 7 - Custody and investment risks

A CCP should hold assets in a manner whereby risk of loss or of delay in its access to them is minimised. Assets invested by a CCP should be held in instruments with minimal credit, market and liquidity risks.

Question 1 (Custody risk)

LCH.Clearnet Limited holds cash collateral at a number of banks, while non-cash collateral is mainly held in CSDs, although a bank custodian is used for US Treasuries. LCH.Clearnet Limited has conducted due diligence on the legal agreements surrounding the holding of collateral. This has confirmed the enforceability of the legal arrangements in all the jurisdictions in which collateral is held. The only securities held outside the European time zone are held in New York.

LCH.Clearnet Limited has agreements and procedures in place for liquidations of government bonds, bank guarantees and CDs held for members as collateral.

As per the LCH.Clearnet Limited PPS Agreement, PPS banks have two hours to transfer margin collected on behalf of members to the concentration bank. Remedial action is taken in the event that the PPS bank fails to meet the deadline on four or more occasions during a calendar month. By ensuring prompt movement of margin payments from the PPS banks to the concentration banks, LCH.Clearnet Limited's credit risk exposure is minimised.

LCH.Clearnet Limited evaluates market, liquidity and performance risk on an ongoing basis, with financial risk ratings being monitored on a fortnightly basis.

Question 2 (Investment security)

The vast majority of cash deposits are secured through tri-party repo, DBV and directly purchased Government Assets (such as Treasury Bills). However, not all cash can be secured owing to LCH.Clearnet Limited's liquidity requirements, intra-day calls made too late in the day to be invested on a secured basis, settlement failures or payment flow imperfections. Any loss arising to LCH.Clearnet Limited from the default of a bank holding an unsecured deposit cannot be covered by member margin or the Default Fund. Overall counterparty limits are set on the basis of public credit ratings, and where the legal counterparty is not credit rated, the parent rating is used.

The collateral acceptance policy is covered in Recommendation 4 above. Market risk is minimised through conservative haircuts, while liquidity risk is minimised by accepting only the most liquid and highest quality financial instruments. In the event of a member default, LCH.Clearnet Limited would first apply the defaulting member's initial margin and any surplus cover from the defaulter to cover losses and costs arising from the default. Only if these resources were insufficient would LCH.Clearnet Limited apply the following funds in order of recourse:

- collateral and Default Fund contributions of defaulter;
- LCH.Clearnet Limited's capital and reserves (up to £20m);
- Default Fund contributions of non-defaulting members;
- any other commitments from members;

- additional £50m from each SwapClear member (for SwapClear related losses only); and
- replenishment of capital base and reserves of LCH.Clearnet Limited.

LCH.Clearnet Limited manages its own capital (owned by the group holding company) within very specific accountable limits. These funds are reinvested only in short term instruments.

Question 3 (Overall exposure to obligors)

In making its investment decisions, LCH.Clearnet Limited takes into account its overall credit risk exposures to individual obligors (whether from cash investments or other relationships) and ensures that its overall credit risk exposure to any individual obligor remains within acceptable concentration limits. A comprehensive and conservative limit structure is reviewed constantly by LCH.Clearnet Limited Risk Committee, and is in line with LCH.Clearnet Limited's risk appetite.

Assessment: Observed

Recommendation 8 - Operational risk

A CCP should identify sources of operational risk, monitor and regularly assess them. The CCP should minimise these risks through the development of appropriate systems, and effective controls and procedures. Systems and related functions should be (i) reliable and secure, (ii) based on sound technical solutions, (iii) developed and maintained in accordance with proven procedures and (iv) have adequate, scalable capacity. The CCP should have appropriate business continuity and disaster recovery plans that allow for timely recovery of operations and fulfilment of a CCP's obligations. Systems should be subject to frequent and independent audits.

Question 1 (Procedures to identify operational risk)

Operational risk is managed through systems and procedures designed to assess and manage operational risk and to limit exposure to operational losses. Within these, processes are documented, authorisation is independent and transactions are monitored and reconciled regularly. LCH.Clearnet group meets the requirements laid out in *International Convergence of Capital Measurement and Capital Standards¹²: a Revised Framework* (commonly known as Basel II).

An operational risk management framework has been established, which systematically identifies, assesses, monitors and controls/mitigates material operational risks, which are reviewed against LCH.Clearnet Limited's risk appetite as set by the Board for each of the major risk areas identified arising from the activities of LCH.Clearnet Limited

Question 2 (Business continuity plans)

LCH.Clearnet Limited's business recovery strategy is founded on a Business Impact Assessment, which is reviewed annually and when any significant changes have taken place within LCH.Clearnet Limited.

Reviews are also conducted with a number of suppliers to discuss their role as service providers. These meetings are held at least at management level. Independent review of operational performance is achieved at CEO level and through the Operational Committee of LCH.Clearnet Limited. This committee regularly reviews reports for all production and operational incidents, along with the Audit Committee. Part of the Internal Audit service involves providing advice on governance, risk management and control practices. Operational risk and control-related advice represents a significant proportion of this 'advisory service'.

There is also an independent adviser on operational risk within executive management. In keeping with good Internal Audit practices, operational risks and controls are an embedded part of Internal Audit work. Risk assessments conducted by Internal Audit take into account operational risk, both at a high level (for example, during regular reviews of the 'audit universe') and at a detailed level (for example, during the planning stage of audit assignments). The Audit Committee is fully involved in the processes of the business continuity plans.

¹² <http://www.bis.org/publ/bcbs128.pdf>

Question 3 (Adequate controls and staff)

LCH has comprehensive business continuity arrangements to ensure that plans are in place to deal with the short, medium and long-term loss or disruption to LCH.Clearnet Limited business. Immediate recovery (Phase 1), within 2 hours of a major incident affecting the primary offices - business critical functions would be relocated into the dedicated hot site and work would resume. The Crisis Command Centre would be activated for immediate occupation by the Crisis Management Team. LCH.Clearnet Limited's business continuity planning framework consists of recovery plans for key services that provide support for LCH.Clearnet Limited's principal business units and critical business units that conduct LCH.Clearnet Limited's business.

A business continuity framework has been developed which covers departmental emergency procedures, processes, procedures and staff contact details and agreed emergency procedures in order to maintain or restore business operations in the required timescales.

LCH.Clearnet Limited undertakes an annual exercise programme which includes IT Disaster Recovery, Office Recovery and crisis simulation with Executive and Senior Management, table top exercises to rehearse departmental recovery teams and Call Tree exercises.

Business continuity and disaster recovery plans are reviewed on an ongoing basis and assessed on a quarterly basis. A quarterly report is presented to the Risk Committee, highlighting the ability of each department to respond to a major incident and detail the maintenance activities that have taken place during the previous quarter.

Question 4 (Availability of key systems)

IT Services Production performs regular stress testing on key systems using the multiples of peak daily volume (e.g. 100% of volume, 200% of peak volume and 300% of peak volume)

LCH.Clearnet Limited grades incidents affecting its key systems on a scale from 1 to 4, with 1 being the most serious and 4 the least. There is no evidence from operational data received that key systems are not reliable, secure and able to handle volume under stress conditions. LCH.Clearnet Limited seeks to ensure that all systems have headroom capacity well in excess of expected volumes.

An appropriate level of security is built into all systems and services to ensure their accuracy, reliability and confidentiality.

LCH.Clearnet Limited uses industry accepted systems, (e.g. Swift and Arrow), for financial messaging. The integrity of the message is managed by within these applications. In addition, operational and security related processes operate to prevent erroneous decisions being made on corrupt transmissions as applicable.

There are a few inter-organisations (banks and exchanges) that communicate through secure communication mechanisms. These systems provide authentication

on the messages that detect when the integrity of a message has been compromised.

LCH.Clearnet Limited does not outsource activity of a material nature.

Assessment: Observed

Recommendation 9 - Money Settlements

A CCP should employ money settlement arrangements that eliminate or strictly limit credit and liquidity risks. If central bank money is not used, steps must be taken to strictly limit cash settlement risks, that is, credit and liquidity risks stemming from the use of banks by a CCP to effect money settlements with its participants. Funds transfers to a CCP should be final when effected and rely on efficient and safe payment systems.

Question 1 (Settlement bank model)

LCH.Clearnet Limited uses a commercial bank model for the PPS¹³, its embedded payment system. Currently, for Sterling and Euro, the Bank of England is the concentration bank. For US Dollars, Citibank NA is the concentration bank and for all other currencies the concentration bank is HSBC Bank plc.

Question 2 (Finality of payments)

LCH.Clearnet Limited has been designated by the FSA under the Settlement Finality Regulations. The effect of this on the PPS is that when a PPS Bank sends a SWIFT message confirming payment on behalf of a member, the sending of the message represents an irrevocable commitment by the PPS bank on behalf of that member to pay what has been demanded by LCH.Clearnet Limited. Funds transfers by the PPS banks to and from the concentration banks are effected through CHAPS, Target2, FedWire, CHIPS or via nostro accounts.

LCH.Clearnet Limited and the key UK payment systems, which it uses, are overseen by the Bank of England. The Bank of England bases its oversight activity on the CPSS Core Principles for Systematically Important Payment Systems.

Question 3 (Monitoring of settlement banks)

The PPS system exposes LCH.Clearnet Limited to the risk that a PPS or commercial concentration bank could fail. This risk cannot be strictly limited, as the amounts involved will be a factor of business undertaken by members and price movements in the markets served. If a PPS bank failed before making an unconditional transfer to the LCH.Clearnet Limited account, then the members affected would be expected to instruct an alternative PPS bank. If a PPS bank failed after making an unconditional transfer to the LCH.Clearnet Limited account, then the risk of loss would be with LCH.Clearnet Limited. This risk is mitigated in two ways. First, PPS banks have to have a minimum Fitch credit rating of A- (or the S&P or Moody's equivalent). Second, LCH.Clearnet Limited has ensured that its policy on the timing of transfers from PPS banks to concentration banks is closely adhered to. A formal deadline of two hours (maximum) for transfer of funds to the concentration bank has been incorporated into a PPS Agreement between LCH.Clearnet Limited and the UK PPS banks, which limits the time period in which is exposed to the risk of bank failure.

¹³ http://www.lchclearnet.com/risk_management/ltd/pps/

In the event that a PPS bank is downgraded below the minimum long term rating criterion, or it fails to meet the operational capability criteria, the PPS bank will be required to leave the service.

LCH.Clearnet Limited routinely monitors the operational performance of PPS banks and their efficiency in meeting the required deadlines. A monthly report on performance is prepared for LCH.Clearnet Limited senior management, and regular 'PPS bank forums' are held where performance issues are discussed. Particular performance issues are discussed directly with the senior management of the bank(s) concerned.

Question 4 (Exposure to settlement bank failure)

LCH.Clearnet Limited has clearly defined criteria for banks operating or applying to operate the Protected Payments System (PPS). These are published on the LCH.Clearnet Limited website. Furthermore, the PPS Agreement sets out the terms and conditions governing non-compliance.

LCH.Clearnet Limited provides regular performance related information concerning transactional timing and values to the BoE. Assessment of the performance of concentration banks is conducted in real time.

Assessment: Broadly observed

Recommendation 10 - Physical deliveries

A CCP should clearly state its obligations with respect to physical deliveries. The risks from these obligations should be identified and managed.

Question 1 (Clarity of LCH.Clearnet Limited's obligations on physical deliveries)

LCH.Clearnet Limited's regulations state its obligations in respect of physical deliveries in all relevant markets. Contracts are physically delivered upon expiry or option exercise. LCH.Clearnet Limited obligations are thus to make delivery of the relevant instrument or (as appropriate) indemnify participants for losses incurred in the delivery process. The procedures for members to follow are laid out in significant detail (Clearing House Procedures Section 5: Commodity Deliveries)¹⁴.

Question 2 (Principal risk management)

In so far as LCH.Clearnet Limited is obligated to make or receive deliveries of physical instruments or commodities it will, as far as possible, eliminate principal risk through the use of the Delivery versus Payment (DvP) mechanism provided by the relevant SSS. Where no DvP mechanism is available, LCH.Clearnet Limited uses a Receive versus Payment (RvP) instruction, by definition stating that only cash will be accepted in exchange for delivery of the securities. LCH.Clearnet Limited holds the commodity until cash is received.

Question 3 (Liquidity, storage and delivery risk management)

LCH.Clearnet Limited margins all contracts through the delivery cycle and may require full contract payment in advance. LCH.Clearnet Limited charges margin to cover the risk of settlement default. The processes for commodities are based around ensuring good delivery to quality standards, with recourse to arbitration processes where those standards are not met.

Assessment: Observed

¹⁴ http://www.lchclearnet.com/Images/Section%205_tcm6-43749.pdf

Recommendation 11 - Risks in links between CCPs

CCPs that establish links either cross-border or domestically to clear trades should design and operate such links so that they effectively reduce the risks associated with the link. It should evaluate the potential sources of risks that can arise from the linked CCP and from the link itself. It should ensure that the risks are managed prudently on an ongoing basis. There should be a framework for co-operation and co-ordination between the relevant regulators and overseers.

Question 1 (Links in operation)

Both LCH.Clearnet Limited and SA are part of the LCH.Clearnet group. However, the two CCPs continue to operate as distinct subsidiaries. If LCH.Clearnet Limited and SA were to move towards creating a link between them, LCH.Clearnet Limited has indicated that a thorough analysis of all the risks (including operational, credit and liquidity) would be undertaken.

LCH.Clearnet Limited interoperates:

- a) with the Swiss CCP SIX x-clear in the clearing of trades executed on the London Stock Exchange and on the SIX Swiss Exchange; and
- b) with the Swedish CCP part of the NasdaqOMX group in the clearing of certain equity derivatives executed on NasdaqOMX's linked order book

In March 2000, LCH.Clearnet Limited and the Chicago Mercantile Exchange (CME) implemented a cross-margining agreement. This is intended to replicate the margin offsets that would have been available to clearing members of LCH.Clearnet Limited and CME if certain instruments on the respective exchanges (Short Term Interest Rate contracts on CME and LIFFE) were traded on the same exchange. The agreement is intended to leave LCH.Clearnet Limited and the CME Clearing House Division no worse off in terms of financial resources available in a default situation than for internal offsets. If the defaulting member's proprietary account is in profit at one clearing house, in terms of margin provided versus losses, then this amount would be used to offset any losses facing the other clearing house. The margin offsets granted are reviewed each quarter, but either clearing house can initiate a review at any time. Importantly, if there is disagreement about the credit that should be allowable, the lower of the two suggested amounts is applied.

Question 2 (Rules governing link)

There is currently no link between LCH.Clearnet Limited and SA and no decision has been taken about the applicable legal framework if or when the link comes into being. The cross-margining agreement between LCH.Clearnet Limited and the CME is based on the laws of the State of New York.

SIX x-clear has been granted a special membership of LCH.Clearnet Limited (effectively similar to the General Clearing Member class (GCM)), to clear SIX Swiss Exchange (UK equity only) and LSE equity trades.

Through a mutual structure between LCH.Clearnet Limited and SIX x-clear, both parties are able to co-clear for one another.

Question 3 (Operational, credit and liquidity risks)

Very few operational, credit and liquidity risks arise as a result of the merged group structure, as LCH.Clearnet Limited and SA clear separate exchanges and contracts, and are currently largely operationally independent of each other.

The cross-margining link between LCH.Clearnet Limited and the CME is intended to leave each organisation no worse off in terms of financial resources in a default situation, and a defaulting member's account that is in profit at one organisation can be used to offset losses at the other. LCH.Clearnet Limited's default rules will apply to contracts between LCH.Clearnet Limited and an LCH.Clearnet Limited GCM or Individual Clearing Member (ICM) or SIX x-clear in the event of a default by the LCH.Clearnet Limited GCM, ICM or SIX x-clear.

Question 4 (Regulation and oversight of link)

The FSA and the BoE participate in the LCH.Clearnet group regulatory college led by the Commission Bancaire (France), and a MoU governing information sharing, communication, etc., has been signed by all regulators involved. The Commission Bancaire is the consolidated prudential supervisor of the group (even though the group holding company is a UK incorporated firm) as SA is a credit institution. LCH.Clearnet Limited is solo supervised by the FSA as a RCH, and the embedded payment system is overseen by the BoE. The CME is a self-regulatory organisation, subject to oversight by the CFTC. The FSA has a general MoU in place with the CFTC to permit regulatory cooperation if necessary.

The FSA has a MoU with the Swiss Financial Market Supervisory Authority (FINMA) and the Swiss National Bank (SNB) as SIX x-clear is a Recognised Overseas Clearing House (ROCH) and was recognised as such in August 2004.

Assessment: Observed

Recommendation 12 – Efficiency

While maintaining safe and secure operations, CCPs should be cost-effective in meeting the requirements of participants.

Question 1 (Review of costs and pricing)

LCH.Clearnet Limited has in place procedures to control its costs of operation. These include an annual budget process, in which the budget for the year ahead is reviewed by senior management and approved by the Board. Additionally, monthly management accounts compare actual results against budget, incorporate a full year forecast, and are distributed to the Board and discussed at Board meetings. LCH.Clearnet Limited also undertakes monthly meetings with department heads to review actual and forecast costs.

LCH.Clearnet Limited undertakes regular analysis and benchmarking on charges. In terms of costs, the many different cost-structures in the CCP arena do not facilitate effective benchmarking of comparable data, although this is carried out where possible.

Question 2 (Review of service levels and operational reliability)

Operational reliability is monitored by the operations and IT areas of the business. Reports are produced for review by the Operations Committee. Capacity levels are also reviewed and monitored and when service enhancements are proposed, the impact on capacity is assessed and analysed. Performance/capacity tests are also carried out before a new service is implemented into the live environment.

Service level agreements are in place between LCH.Clearnet Limited and the trading platforms which set out operational reliability; capacity levels versus projected demand and are reviewed regularly. Service level standards and procedures in place between LCH.Clearnet Limited and its participants are assessed on an ongoing basis.

Assessment: Observed

Recommendation 13 – Governance

Governance arrangements for a CCP should be clear and transparent to fulfil public interest requirements and to support the objectives of owners and participants. In particular, they should promote the effectiveness of a CCP's risk management procedures.

Question 1 (Clarity and transparency of governance arrangements)

LCH.Clearnet Limited is a wholly owned subsidiary of LCH.Clearnet Group Limited (Group), and issues of group-wide governance rest with the Group Board. These governance arrangements are clearly specified and information regarding them is publicly available in the annual report of Group and on Group's website¹⁵.

The Group Board supports the highest standards in corporate governance and, wherever possible, adopts the provisions of the Financial Reporting Council's Combined Code on Corporate Governance, which sets out principles of good corporate governance for listed and unlisted companies.

The LCH.Clearnet Limited Board meets at least quarterly throughout the year and has a formal schedule of matters reserved to it. It has full and effective oversight of the company and monitors executive management through review of and discussions about information provided to it by executive management, as well as reports from Internal and external Audit and through LCH.Clearnet Limited's Risk and Audit Committees.

Question 2 (Separation of reporting lines for risk management)

The Risk Committee is a sub-committee of the LCH.Clearnet Limited Board. It is chaired by an independent non-executive LCH.Clearnet Limited Board member, and its members are user representatives, acting as consultants. The Risk Management Department, as part of the executive structure, is independent from all other departments within LCH.Clearnet Limited. Based on the independence of the LCH.Clearnet Limited Board Risk Committee and its discretion in relation to risk management policy, and that of the executive Risk Management Department, LCH.Clearnet Limited presents a clear separation between the reporting lines for its risk management and those for its other operations.

Question 3 (Skills, incentives and accountability of management and Board)

As a UK incorporated company, LCH.Clearnet Limited's Board and management are accountable to its shareholders. The Board includes four independent board members (including the Chairman). Non-executive directors of the Board are drawn from the membership of the Group Board. Group Board membership includes representatives of users of the services of operating subsidiaries with a variety of complementary skills, product knowledge and industry experience, and ensures that Board and customer interests are closely aligned. Each Board member attends an induction session covering the main operational areas of the company. Product (e.g.

¹⁵ <http://www.lchclearnet.com>

EquityClear, SwapClear) information is presented at Board meetings to enhance Board members' understanding of the main services.

The Board receives an annual report reviewing risk management arrangements in line with the Combined Code provision C.2.1, defines the risk appetite of the company and receives various other risk related reports on a regular basis. The annual review describes the governance arrangements in place for risk management.

The Board is responsible for selecting, evaluating, and if necessary removing, senior management.

The LCH.Clearnet Limited Risk Committee includes user/member representatives and is responsible for setting new, and changing and approving all market, counterparty, liquidity and operational risk related policies and submitting them to the LCH.Clearnet Limited Board for ratification if required. In this respect it is an advisory committee to the Boards. The Risk Committee receives periodic reporting on risk related policy review results (incl. stress and back testing), summary exception reports (e.g. limit breaches) or any special report as requested by the committee. The Risk Committee is responsible for assessing the effectiveness of the risk policy framework, its implementation and maintenance.

Question 4 (Disclosure of objectives, responsibilities and delivery)

The Group clearly states and makes publicly available its ownership structure and the composition and role of the Group Board and key Group Board committees. It also publishes its high-level objectives, and the website also contains relevant information on delivery against these. Information is made available upon request to the relevant authorities.

As set out in LCH.Clearnet Limited Articles of Association, governance arrangements are sufficiently robust to mitigate conflicts of interest; Directors are required to disclose interests or positions that conflict or appear to conflict, prior to the relevant board meeting(s). Conflicts of interest are managed as and when they arise.

Assessment: Observed

Recommendation 14 – Transparency

A CCP should provide market participants with sufficient information for them to identify and evaluate accurately the risks and costs associated with using its services.

Question 1 (Disclosure of risks)

LCH.Clearnet Limited publishes its rules and procedures for the various markets cleared, together with information on risk management, application costs and procedures, minimum contributions towards (and interest rates on) the Default Fund, and the transaction tariffs. LCH.Clearnet Limited does not make public information relating to default stress tests. However, stress test scenarios are conducted with the results being assessed by the Risk Management Department daily and the Risk Committee quarterly, unless the results of the analysis are considered material.

Question 2 (Accessibility of information)

The rules and procedures, etc., are published in English on the internet.

Question 3 (Review of information)

Information contained in disclosures and information made public on the LCH.Clearnet Limited website remains current. There is a clear structure of oversight and system of review for all documentation that is made public through the LCH.Clearnet Limited website.

Assessment: Observed

Recommendation 15 - Regulation, Supervision and Oversight

A CCP should be subject to transparent, effective and consistent regulation, supervision and oversight. In both a national and a cross border context, central banks and securities regulators should cooperate with each other and with other relevant authorities regarding the CCP. Such cooperation should also ensure a consistent implementation of the recommendations.

Question 1 (Ability and resources of regulator and overseer)

Regulation and oversight of LCH.Clearnet Limited is carried out by the FSA and the BoE. The FSA is the main regulator of LCH.Clearnet Limited as a RCH, while the BoE's oversight remit focuses on LCH.Clearnet Limited's inter-bank payment system.

FSA have implemented a "close and continuous" regulatory supervision relationship on LCH.Clearnet Limited through a number of formal and *ad hoc* meetings and other communications at many levels and of many frequencies. This model of supervision ensures that the relevant regulatory obligations continue to be met and would identify if activities at LCH.Clearnet Limited pose any risks to the FSA's statutory objectives, including maintaining market confidence.

The inter-bank payment system operated as part of LCH.Clearnet Limited has been recognised by HM Treasury for oversight by the Bank of England under Part 5 of the Banking Act 2009. Further information about the Bank's approach to statutory oversight is set out in *The Bank of England's oversight of interbank payment systems under the Banking Act 2009*.¹⁶

Question 2 (Clarity and transparency of objectives, roles and policies of authorities)

Regulation and oversight take place in the public domain as far as is reasonably practical and within the confines of the relevant legislation. The rules and guidance governing the regulation of LCH.Clearnet Limited by the FSA are publicly available on the FSA's website¹⁷ and the FSA is required by law to consult on matters of policy which could affect the regulatory framework within which LCH.Clearnet Limited operates.

The respective roles and responsibilities of the BoE and the FSA are contained in a MoU which is publicly available on each institution's website (as well as the HM Treasury website).

Question 3 (CCP reporting requirements)

¹⁶ http://www.bankofengland.co.uk/financialstability/role/risk_reduction/payment_systems_oversight/pdf/oips-response.pdf

¹⁷ <http://www.fsa.gov.uk>

Reporting requirements for LCH.Clearnet Limited to the FSA are contained in the FSA handbook, which is published on the internet¹⁸.

The BoE has access to regular information on payment flows across the PPS generally, and has specific access to data on the performance of PPS banks in Sterling and Euro as it is LCH.Clearnet Limited's concentration bank for those currencies.

Question 4 (Cooperation between authorities)

LCH.Clearnet Limited is subject to the Recognition Requirements and the REC part of the FSA Handbook and adheres to the notification requirements, and requests made by the relevant regulators as to the provision of additional information. European jurisdictions place reliance on the regulation of LCH.Clearnet Limited by the FSA.

Domestic cooperation between the FSA and the BoE in the regulation and oversight of LCH.Clearnet Limited is governed by the MoU mentioned above. In practice, this cooperation works well with all material issues disclosed regularly and effectively.

International cooperation is achieved through MoUs with the relevant regulators in the relevant overseas jurisdictions (a MoU has recently been signed between the FSA on the one hand and the CFTC and the SEC respectively on the other). The MoUs primarily contain provisions on information sharing between the relevant regulators. Meetings to discuss issues of common regulatory and oversight concern are held at least every three months between the FSA and the securities regulators and central banks of other jurisdictions.

Assessment: Observed

¹⁸ <http://fsahandbook.info/FSA/html/handbook/REC/3>