

**LONDON CLEARING HOUSE LIMITED**

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**APPLICATION  
FOR  
REGISTRATION  
AS A  
DERIVATIVES CLEARING ORGANIZATION**

August 28, 2001

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August 28, 2001

Mr. John Lawton  
Acting Director  
Division of Trading and Markets  
Commodity Futures Trading Commission  
Three Lafayette Centre  
1155 21<sup>st</sup> St., NW, 4<sup>th</sup> Floor  
Washington, DC 20581

312 902 5367 (PHONE)  
312 577 8754 (FAX)  
michael.philipp@KMZ.com

Re: Application For Registration As A Derivatives Clearing Organization

Dear Mr. Lawton:

On behalf of our client, The London Clearing House Limited ("LCH"), a Recognized Clearing House ("RCH") in the United Kingdom ("UK") under the UK's Financial Services Act 1986 ("FSAct"), we hereby submit this Application for Registration as a Derivatives Clearing Organization ("DCO") pursuant to Sections 5b(b) and 5b(c)(1) of the Commodity Exchange Act (the "CEA") and proposed Part 39<sup>1/</sup> of the Regulations of the Commodity Futures Trading Commission ("CFTC"). LCH is applying for registration with the CFTC as a DCO for the purpose of facilitating, and in furtherance of, LCH's current and proposed over-the-counter ("OTC") derivatives clearing activities in the United States ("US").<sup>2/</sup> Through its SwapClear facility LCH currently clears "vanilla" interest rate swaps in G-4 currencies up to a 10 year maturity. LCH anticipates extending its SwapClear product scope to include additional currencies and indices, longer maturities and cross-currency swaps and options. In addition, LCH contemplates providing clearing services for transactions in exempt commodities (as defined in CEA Section 1a(14)), including OTC energy derivatives, effected through electronic trading facilities exempt pursuant to CEA Section 2(h)(3).<sup>3/</sup> At this time LCH is not seeking approval to act as a DCO for the clearing of futures contracts traded on boards of trade that the CFTC has designated as contract markets, although LCH may seek such approval in the future.

This Application provides certain information to support registration of LCH as a DCO, including information that demonstrates compliance with the fourteen core principles for DCO registration that are enumerated in Section 5b(c)(2) of the CEA and proposed Part 39 of the

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<sup>1/</sup> 66 Fed. Reg. 24308 (2001) (to be codified at 17 C.F.R. Part 39) (proposed May 14, 2001).

<sup>2/</sup> As the CFTC is aware, LCH currently provides clearing services to U.S. wholesale market participants in over-the-counter interest rate swap through its SwapClear facility, pursuant to a CFTC order issued under CEA Section 4(c) effective September 23, 1999, 64 Fed. Reg. 5334, October 1, 1999 (the "SwapClear Order").

<sup>3/</sup> The products proposed to be cleared by LCH include agreements, contracts or transactions excluded from the CEA by Section 2(c), 2(d), 2(f) or 2(g) of the CEA or title IV of the Commodity Futures Modernization Act of 2000, or exempted under Section 2(h) or 4(c) of the CEA, or other over-the-counter derivative instruments (as defined in the Federal Deposit Insurance Corporation Improvement Act of 1991).

CFTC Regulations<sup>4/</sup>. Part I of this Application describes the organization, governance, regulation and capitalization of LCH. Part II describes the requirements for LCH membership, and certain legal and contractual aspects of the relationship between LCH and its members, describes generally the clearing activities and operations of LCH and provides more particular information concerning margin requirements, settlement of trades and the LCH member account structure. Part III explains LCH's risk management procedures and the safeguards LCH has implemented to protect its automated systems and ensure viable alternatives in the event of the inoperability of such systems. Part IV discusses LCH's rights and authority with respect to the financial insolvency or impairment of its members, while Part V focuses on rule enforcement. Finally, Part VI contains certain undertakings with respect to its anticipated operations in the United States as a DCO. For convenient reference, appended to this Application as Schedule I is an index which provides cross-references to the portions of this Application in which the core principles for DCO registration are addressed.

## **I. Organization, Governance, Regulatory Scheme, Financial and Default Resources**

The company now known as the London Clearing House was founded in 1888 to clear commodity contracts traded in London. Currently, LCH is organized as private limited company under the laws of England and Wales whose issued and outstanding shares are owned entirely by its members and three of the four UK exchanges whose contracts are cleared by LCH. As an RCH under the FSAct,<sup>5/</sup> LCH is authorized to engage in clearing activities with respect to both exchange-traded and OTC instruments. Under its Memorandum and Articles of Association ("Articles"), as amended, a copy of which is attached hereto as **Exhibit A**, LCH is empowered to engage in clearing activities in respect of cash instruments and futures and options and other markets, without geographical limitation. The Articles were the basis under which, in the period extending from the 1960s to the early 1990s, ICCH (the predecessor of LCH) cleared exchange markets in Australia, Brazil, Malaysia and New Zealand as well as in the UK. As such clearing is subject to regulation at a national level in all jurisdictions, including the UK, LCH is required to obtain the necessary authorization and approval, and to comply with other applicable requirements, in order to engage in the activities provided for under its Articles.

### *A. Governance*

The activities and operations of LCH are directed and overseen by its Board, which currently comprises thirteen directors. The thirteen directors include eight that represent the LCH member shareholders, a senior executive of each of the three exchange shareholders of LCH, and LCH's

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<sup>4/</sup> Specifically, the core principles include criteria regarding: general compliance, financial resources, participant and product eligibility, risk management, settlement procedures, treatment of funds, default rules and procedures, rule enforcement, system safeguards, reporting, recordkeeping, public access to information, information sharing and antitrust considerations.

<sup>5/</sup> LCH received a recognition order from the Securities and Investments Board ("SIB") in 1988. At that time, SIB was the UK authority charged with granting recognition to entities which satisfied the requirements applicable to clearing houses and with supervising the operations of such clearing houses. Responsibility for the oversight of clearing houses recognized under the FSAct, including LCH, has been transferred from SIB to the Financial Services Authority ("FSA").

chairman and chief executive. There is provision for two independent lay directors. A list of the current directors of LCH and the curriculum vitae of each are attached hereto as **Exhibit B**.

Two Board committees – Risk and Audit – oversee membership, risk policies and finances and operational risk controls, respectively. Their terms of reference are attached hereto as **Exhibit C**. The Risk Committee meets each month, while the Audit Committee meets at least four times a year. The committees report to the Board after each of their meetings.

Day-to-day operations of LCH are the responsibility of LCH’s chief executive and other senior management. In order to avoid potential conflicts of interest for members of the Risk Committee or Board, and to ensure prompt and decisive action in the event of member default, senior management is also responsible for all decisions regarding the setting of initial margin rates, issuing intra-day margin calls, the establishment of additional margin or resource requirements for members and default declaration and management (each of which is discussed later in this Application). Under the LCH Articles of Association, any modifications to the “reserved powers” under which the executive takes key risk management decisions must be approved by at least 75% of the directors. A list of the current senior management of LCH and the curriculum vitae of each are attached hereto as **Exhibit D**.

#### *B. Regulatory Scheme*

LCH is an RCH under the FSAct and is subject to the FSAct and other relevant laws, rules and regulations in the UK. The FSAct has been superseded on the statute books by the Financial Services and Markets Act of 2000 (FSMA), although the FSMA does not come into force until later this year. Because of the known change in the underlying legislation and the fact that there has been some modification of the requirements for clearing houses, the UK Financial Services Authority (“FSA”) is well advanced in assessing LCH’s compliance with the new requirements under a ‘grandfathering’ process. In light of that process and the imminence of the coming into force of the FSMA, the latter requirements are covered below. Under the FSMA, as supplemented by the Companies Act 1989 (“UK Companies Act”), a clearing house may be “recognized” if it appears to the FSA<sup>6/</sup> that the clearing house, among other things: (i) has sufficient financial resources; (ii) has adequate systems and controls; (iii) has adequate arrangements and resources for the effective monitoring and enforcement of its rules; (iv) is able and willing to promote and maintain high standards of integrity and fair dealing and to cooperate by the sharing of information and otherwise, with the Secretary of State and any other authority, body or person having responsibility for the supervision or regulation of investment business or other financial services; and (v) has default rules which enable action to be taken to close out a member’s position in relation to all unsettled market contracts to which such member is a party, where that member appears to be unable to meet its obligation.<sup>7/</sup>

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<sup>6/</sup> The FSA is authorized to “recognize” clearing houses in the UK pursuant to FSAct (Delegation) Order 1987.

<sup>7/</sup> See FSAct P. 1.39 (1986) (Eng.). The FSAct requires that persons who intend to engage in “investment business” in the United Kingdom be either “authorized” or “exempted” persons, as those terms are defined in the FSAct. RCHs qualify as “exempted persons” and, thus, are exempt from the authorization requirement and the conduct of business rules for the activities associated with their recognition status, as

As an RCH, LCH is subject to direct supervisory oversight by the FSA and has reporting, record-keeping, and other regulatory obligations. LCH's contact with FSA supervisors has become more regular since the FSA replaced the SIB, with standard supervisory meetings each month, and management meetings each quarter, in addition to a large number of more *ad hoc* contacts. Any major new clearing initiative by LCH is treated as a full-scale supervisory project by FSA (for example, SwapClear, RepoClear and EquityClear) and involves an inter-disciplinary team of supervisors (Markets and Exchanges Division), risk specialists (Traded Risk Department) and lawyers. Equally, important adjustments to internal arrangements at LCH are reviewed by FSA (for example, the Traded Risk Department review of the change to the stress-testing model in 2001). Because of the significantly greater degree of oversight introduced since 1997, the FSA has dispensed with the requirement for LCH to provide it with an annual regulatory plan. The regular contact means that FSA is in effect continuously up-to-date with LCH's progress on work designed to maintain and improve LCH's risk management and operational controls, including work designed to extend such management and controls to cover new areas of clearing activity. A copy of LCH's regulatory plan for 2000 is attached hereto as **Exhibit E** to illustrate the kind of planning and consultation that takes place. LCH is also required to provide the FSA with information relating to its governance, personnel, and business activities and changes in its rules. The information that LCH must provide to the FSA includes information relating to:

- (i) Its annual audited reports and accounts and monthly management accounts;
- (ii) Its quarterly and annual budgets;
- (iii) The presentation of a petition for winding up, the appointment of a receiver or liquidator, or the making of a voluntary arrangement with creditors;
- (iv) The institution of any legal proceedings against it;
- (v) Changes in its constitution, fees and charges, key personnel, independent arbitrator, ombudsman, complaints investigator, auditors and persons to whom it provides clearing services;
- (vi) The presentation of a petition for bankruptcy by any of its key personnel;
- (vii) The dismissal of or any disciplinary actions taken against or relating to any of its officers or employees;
- (viii) Admissions or deletions from membership;
- (ix) Any disciplinary action taken against a member or an employee of a member;
- (x) Persons appointed by another regulatory body to investigate the affairs of a member or its clearing services;

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long as they continue to satisfy the recognition criteria. These criteria were established to take into account an RCH's "special regulatory position within the financial system" and an RCH's expertise in the operation of such markets.

- (xi) Evidence indicating any person has been carrying on unauthorized investment business or has committed a criminal offense under the FSAct; and
- (xii) The open positions, margin liability, and cash and collateral balances of a defaulting member.

As a private limited company organized under the laws of England and Wales, LCH is required to meet, and currently satisfies, the statutory annual audit requirements applicable to such companies. The Audit Committee of the LCH Board is responsible for supervising LCH's compliance with such audit requirements, as well as other audits undertaken by LCH's internal auditors or by external auditors on specific aspects of its operations.

### *C. LCH Financial Resources and Default Fund*

As of the date of this Application, LCH has paid-up share capital of £52.1 million (\$73 million @ 1£=1.40\$) and deferred income from previous years of £13 million (\$18 million). Holding of one A share in the company is a membership requirement and the 116 members of LCH collectively subscribe to just over 75% of the paid-up share capital. The B shares held by the three exchange shareholders of LCH account for the remainder (just under 25%) of the total. A copy of the audited financial statements of LCH for the year ended 31 October 2000, the most recent such statements currently available, is attached hereto as **Exhibit F**.

LCH's capital and deferred income is held exclusively on deposit, alongside cash margins and other cash amounts. Deposits are made only with banks meeting defined credit rating standards, subject to quantitative limits also determined by ratings.

The capital is entirely available to meet company needs of whatever kind. But it is not intended to form a primary resource for use in the event of losses incurred in a member default. In this respect LCH differs from some exchange-owned clearing organizations whose auditors verify that a certain proportion of their capital base is available to cover default losses. Equally LCH's Default Fund is not – in contrast to the “common stock” of the (Chicago) Board of Trade Clearing Corporation – part of its capital base. LCH currently has a cash Default Fund of £301 million (\$421 million) and ancillary insurance cover of £100 million (\$140 million) to cover default risk.

For Treasury management purposes, LCH maintains multi-currency bank lines of credit totalling £73.5 million (\$103 million). These lines are not needed in normal circumstances because 50% of LCH's total cash of £1.8 billion is placed on overnight deposit and the average maturity of the portfolio is less than 5 days.

## **II. Clearing Activities, Contract Types Cleared, Membership Requirements, Account Structures, Settlement, Information Sharing Arrangements, Margin Requirements, and Record-keeping**

LCH's 116 members represent one of the largest memberships among derivatives clearing organizations worldwide. Its members consist of banks, securities houses/investment banks, commodity brokers and traders, and, to a very limited extent, industrial companies (Mars, Nestlé, Cadbury etc). Each LCH member must enter into a contractual clearing membership agreement with LCH in the form attached hereto as **Exhibit G** (the "Clearing Membership Agreement"). The Clearing Membership Agreement contains an acknowledgement that the contracting member accepts the General Regulations, Default Rules and Procedures of LCH (the "LCH Regulations"), which establish requirements concerning, *inter alia*, financial resource adequacy of member firms, reporting requirements, banking arrangements, professional competency standards, and fitness and properness of directors.<sup>8/</sup> A copy of the LCH Regulations is attached hereto as **Exhibit H**. Certain requirements contained in the LCH Regulations are discussed below.

### *A. Clearing Activities*

LCH provides clearing services for its members, with respect to both exchange-traded and OTC cash and derivatives transactions. Currently, LCH provides clearing services for three UK futures exchanges, The London International Financial Futures and Options Exchange (LIFFE), London Metal Exchange (LME), and the International Petroleum Exchange (IPE), as well as for the London Stock Exchange (LSE). LCH has just discontinued its clearing for the London-based electronic stock exchange, virt-x ltd ("virt-x") (previously Tradepoint Financial Networks). The intention is to re-commence clearing for virt-x in 2002. Virt-x and the other four exchanges are authorized and supervised by the FSA as recognised investment exchanges and as such have to meet the requirements of the FSMA. Additionally, LCH provides clearing services for members in their OTC transactions in interest rate swaps, through its SwapClear facility, and in government bonds and repurchase agreements on the same instruments, through its RepoClear facility.

### *B. Contracts Cleared*

LCH clears OTC interest rate swaps through its SwapClear facility, and as set forth on page 1 above, anticipates clearing an expanded list of swap products and OTC derivatives on exempt commodities. In addition, LCH clears European government bonds and repurchase agreements relative to those instruments, through its RepoClear facility. Transactions cleared through SwapClear and RepoClear are traded by members of LCH on a bilateral basis, either inter-office, or through brokers, or on automated trading systems recognized by LCH. Further, LCH currently clears exchange-traded futures and options on futures, exchange-traded options on equity indices and individual equities, and exchange-traded cash equities. The exchange-traded

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<sup>8/</sup> A copy of the LCH Regulations is provided to each member upon its acceptance by LCH and is thereafter available to such member and the public upon request. In addition, the LCH Regulations are available on LCH's website at [www.lch.co.uk](http://www.lch.co.uk).

futures and options on futures relate to underlyings in short-term interest rates (Euro, Sterling, Swiss Franc); government bonds (UK Gilts and Japanese Government Bonds); medium and long-term swap rates (Euro), equity indices (UK-related FTSE indices and FTSE and MSCI pan-European indices); and individual stocks (British, Dutch, French, German, Italian, Spanish and US companies); and to a broad range of commodities (energy - Brent crude oil, gas oil, natural gas and electricity; non-ferrous metals – aluminium (primary and secondary), copper, lead, nickel, tin and zinc; and ‘softs’ and agriculturals – cocoa, coffee, white (refined) sugar, wheat, barley and potatoes). The exchange-traded options are on UK stock indices and individual British stocks. All the financial and equity-related futures and options are traded at LIFFE before clearing at LCH. The energy futures are traded at the IPE, the non-ferrous metal futures at LME and the ‘softs’ and agriculturals at LIFFE. LCH also clears the British equities traded on the LSE’s automated trading system.

LCH, in order to clarify the participation of US firms in its SwapClear facility, obtained an exemption from the Commodity Exchange Act and CFTC Regulations in an order issued by the CFTC in 1999. LCH is hereby applying for designation as a DCO with respect to the instruments cleared through its SwapClear facility, as well as instruments effected through electronic trading facilities exempt pursuant to CEA Section 2(h)(3). LCH may, in the future, apply for broader application of such DCO designation to include clearing for futures contracts traded on CFTC designated contract markets.

### *C. Matching and Acceptance*

In the case of SwapClear, swaps traded by LCH members, or for which they are responsible, are matched and checked during the course of the day and are visible to LCH, through electronic systems, on a continuous basis during SwapClear trading hours. LCH technically and legally accepts the central counterparty risk as soon as the match occurs provided that the contracts meet the agreed contract terms. When LCH has accepted a contract for registration, it is replaced by two separate contracts involving LCH as seller and buyer, respectively, on the one hand, and its members, on the other hand. Members are required to enter into such contracts with LCH as principal only, and not as agent.

### *D. Contractual Relationships and Member Accounts*

LCH does not have any direct contractual obligations with non-clearing members (NCM) of the exchanges, (although it is party to *quadri-partite* agreements between the relevant exchange, a general clearing member (GCM) and each of its NCM clients, under which the GCM contracts to honor all the obligations of the NCM), or with other clients of its members. All exchange trades by NCM of the exchanges cleared by LCH are registered with LCH in the name of an LCH member with which the NCM has a contractual relationship. Similarly, LCH acts as central counterparty clearing house only to OTC Swap transactions registered with it by its SwapClear Clearing Members, and cash bond and repurchase transactions registered with it by its RepoClear Clearing Members, although trading can previously have taken place between SwapClear Trading Members or RepoClear Trading Members, respectively. Consequently, open contracts registered with LCH, as discussed above, are contracts between LCH and its members.

LCH has separate contractual agreements with the four exchanges which have appointed LCH to clear their markets. Amongst other things, these contractual agreements establish the applicability of the LCH Regulations to LCH members that are members of such exchanges and LCH's independence vis-à-vis the exchanges with respect to certain activities discussed in this Application, including setting and raising margin rates and establishing members' financial requirements. A representative form of LCH-exchange clearing agreement is attached hereto as **Exhibit I**.

LCH's member account structure and requirements are designed to complement statutory client protection mechanisms which require client funds to be segregated from a firm's own funds. LCH makes segregated client accounts available for its members that have trading clients and that are required by applicable law or exchange regulation to segregate client funds from firm funds. Non-segregated client positions and member proprietary positions are maintained in "house" accounts with LCH. LCH's obligations as central counterparty to member trades relate separately to positions registered in a member's house account and such member's segregated client account. In the event of a member's default, LCH cannot offset positions in the member's house account with those held in the member's segregated client account and vice versa, nor can LCH apply margin cover held in relation to positions registered in one such account to meet shortfalls with respect to positions in the member's other account.

#### *E. Trading Authorization*

Members must demonstrate to LCH that they have the legal authority to engage in derivatives transactions by presenting LCH with their articles of association and any relevant resolutions of their Board and in certain cases by also furnishing legal opinions from external counsel. LCH members that clear exchange-traded instruments must be clearing members of an exchange or exchanges and, as such, subject to such exchange's or exchanges' requirements. Membership of LCH does not confer rights to clear an exchange unless the member also holds exchange clearing membership. All members, as a requirement of LCH membership, must comply with all relevant regulatory requirements applicable to the entirety of their business. In the case of most members of LCH, their business is broadly-based and not confined to exchange-based activities. Failure to comply with such requirements is identified as an act of default in the Default Rules. In the specific case of members trading OTC swaps through LCH's SwapClear facility, those requirements currently include meeting the qualifications for "appropriate persons" under Section 4(c) of the CEA and for "eligible swap participants" under CFTC Rule 35.1.<sup>9</sup>

#### *F. Member Capital and Limits*

Members must comply with any regulatory capital requirements to which they are subject, as well as specific minimum capital requirements set by LCH. LCH's requirements relate to a member's net capital, as defined in Section 1.7 of LCH's *Procedures*. The definition is identical

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<sup>9</sup> As part of the implementation of LCH's operation of SwapClear under its status as a DCO, LCH will amend its SwapClear membership eligibility requirement to refer to "eligible contract participant" as such term is defined in Section 1a(12) of the CEA.

to that employed by most banking supervisors and many securities regulators: permanent capital and allocated reserves, plus other restricted reserves and subordinated loans, less illiquid assets including shares in LCH and exchange memberships. LCH members clearing OTC instruments through LCH's SwapClear facility must have net capital of at least £250 million (\$350 million) or have a credit rating of BBB or better from a major rating agency (Standard and Poor's, Moody's or Fitch-IBCA) or have a parent company with such a rating that is a qualified SwapClear Dealer with LCH and has unconditionally guaranteed such member's liabilities to LCH. LCH RepoClear clearing members must have net capital of Euro100 million (\$120 million) if they are just clearing their own account business or Euro 400 million (\$480 million) if they are clearing for unrelated RepoClear trading members. In both cases they must either themselves have a minimum credit rating of BBB or be unconditionally guaranteed by a parent company that itself has such a rating. The net capital requirements for members clearing OTC energy derivatives have not yet been established, but LCH expects that such requirements are likely to be comparable to the requirements for clearing exchange-traded futures contracts (described in the next paragraph) rather than the requirements applicable to clearing OTC interest rate swaps.

The LCH minimum requirements for members clearing exchange-traded instruments are higher if a particular member clears for non-clearing members of an exchange who have direct access to trading, and increase in accordance with the number of 'LCH-cleared exchanges' that a particular member clears. The LCH requirements for members clearing only one exchange are coordinated with, and identical to, the capital requirements of the applicable exchange(s). LCH's capital requirements applicable to such members currently range from £0.5 million (\$0.7 million) in net capital (shareholder funds and qualifying subordinated loans less illiquid assets) and £0.25 million (\$0.35 million) in core capital (paid-up share capital and non-distributable reserves) for members clearing only their own business, to £10 million (\$14 million) in net capital and £1 million (\$1.4 million) in core capital for members clearing the business of other exchange members in addition to their own business. The minimum permanent capital requirement for non-regulated companies (industrial processors, manufacturers or trading companies that clear only their own business and are not engaged in investment business as defined by the FSAct) is £50 million (\$70 million). LCH requires a member clearing more than one of the four exchange markets cleared by LCH to have net capital that is at least equal to the sum of the minimum capital requirements established for each applicable exchange. The maximum net capital requirement is £19 million (\$27 million) for a member clearing all four such exchanges. Because the minimum net capital requirements for OTC clearing membership are considerably higher than for exchange clearing membership, the additive requirement does not apply in cases where a firm clears both OTC and exchange business. For example, a SwapClear Clearing Member also clearing all the exchange markets through LCH is subject only to the SwapClear minimum of £250 million (\$350 million) and not to an additive minimum of £250 million (\$350 million) plus £19 million (\$27 million).

LCH has the right to require at any time that a particular member have additional financial resources (LCH Procedure, 1.6.4). As mentioned earlier, all members must meet regulatory capital requirements. The standard regulatory treatment is to regard holdings of LCH shares as an outright deduction from the eligible capital of the firm, and to require regulatory capital to be set aside by the firm to cover the risks that its contribution to LCH's Default Fund could be applied. As the overwhelming majority of members are not specialist futures firms, most

members have to hold regulatory capital considerably greater than the LCH minimums. All members must of course comply with LCH's margin requirements, discussed in Part I, and contribute to the financial backing (Default Fund) available to LCH in the event of the default of any member, as discussed in Part IV. The company's financial resources, and the margin and Default Fund contribution requirements that it imposes on LCH members are separately and collectively designed to reinforce and strengthen the soundness and integrity of LCH's clearing operations.

While LCH collects initial margin and Default Fund contributions from each member as contingent resources for use in the case of member default, its policies also act to limit the extent to which each member's initial margin requirements can be eroded within the course of a business day by new business and adverse market movements, on the one hand, and to try to ensure that members continue to be able to finance their margin obligations to LCH. LCH's main, automatic policy in relation to the latter risk is to set limits on the size of members' initial margin requirements relative to their capital. LCH has a core limit of 3 (the ratio of initial margin to capital). But it sets lower limits for members with certain business profiles and without highly capitalized, credit-rated parents, and may tolerate ratios greater than 3 for short periods after discussions with a particular member.

#### *G. Financial Reporting Requirements*

Members generally are required to provide to LCH copies of their quarterly financial statements, within 30 days after the end of each financial quarter, and of their annual audited accounts within 6 months of year end. Members regulated by FSA and the CFTC and/or SEC must also provide LCH with copies of the regulatory reports that they are required to file with the respective regulator. LCH receives members' FSA returns through an electronic feed from the FSA. Although bank members are only obligated to submit copies of their annual audited accounts, LCH may require such members to provide copies of their regulatory returns or of their management accounts. All members are required to notify LCH of significant decreases in their financial resources and of any additional information relevant to their financial condition (LCH Procedures 1.8.4, 1.7.4, & 1.9.3).

#### *H. Information Sharing Arrangements*

In addition to the documents and information which the LCH Regulations require members to submit to LCH on a routine or other basis, LCH has established information-sharing agreements or understandings with each of the four exchanges for which it conducts clearing activities and with the Chicago Mercantile Exchange with whom it has a cross-margining agreement. LCH was a founder signatory of the International Information Sharing Memorandum of Understanding and Agreement dated March 15, 1996, and, as such, maintains the database of clearing firms active on more than one of the markets/clearing organization signatories to the agreement. Under such arrangements, LCH is able to obtain additional information regarding any particular member which LCH's monitoring has indicated may be experiencing financial challenges that could threaten such member's ability to meet its obligations to LCH. It has direct access to the regulatory returns of all its non-bank members and can supplement that data with direct input from supervisors at FSA. Before the establishment of FSA, LCH had information sharing MOUs with both the Securities and Futures Authority and with the Bank of England.

These are no longer pertinent as the direct supervisory responsibilities have transferred to FSA, which is also the oversight regulator of LCH and as such has a direct interest in the financial security of LCH. FSA is party to a very large number of information sharing agreements, including the “Memorandum of Understanding on Mutual Assistance and Exchange of Information” (September 1991) with the CFTC, SEC and the UK Department of Trade and Industry.

LCH’s basic need for information held by regulators or other clearing organizations or exchanges falls into two categories. Firstly, the routine checking of the track record of applicants for membership, in cases where the primary regulator of the applicant is not the FSA or where it has well-established clearing activities in another country and is proposing to transfer those activities. Second, to assemble more information in cases where the financial stability of a member seems to have deteriorated, where there are rumours of potentially terminal difficulties, or where there are large positions whose risk profile could be put in better perspective with knowledge of positions held in another clearing organization. LCH routinely checks on the ‘references’ of applicants with other clearing organizations (it would route any regulatory questions through FSA). It has also asked for and received information in relation to financial stability, rumours and large positions from, *inter alia*, the CME, BOTCC and Eurex. The information requested has been relatively general and LCH has not asked for written confirmation. The same has been true when LCH has been approached for information by another clearing organization. In contrast, enquiries by regulators addressed to LCH have focused on requests for detailed information (although often within wide boundaries). The difference is explained by the respective nature of the responsibilities and of the risks managed by the two. Regulators are typically carrying out an investigation which can have no practical outcome unless they can establish hard evidence of a particular activity. While LCH can and has taken additional comfort from the fact that a member’s large position with it in German interest-rate derivatives has been partly offset by positions in similar instruments at another clearing organization, its initial margining can take no account of the offsetting positions unless they are directly cleared with it or covered by a margin offset agreement, and it establishes its margin requirements on the basis of the positions that it must manage in a default. Equally, in the case of a highly capitalized bank that has direct membership of LCH in its own name and does not operate through a sparingly-capitalized specialist subsidiary, potentially offsetting positions are just as likely to be off balance sheet, so extended enquiries about cleared positions would still leave LCH with partial information.

#### *I. Margin Requirements; acceptable collateral; and collateral lodgment*

LCH generates initial margin requirements for cleared swaps using PAIRS – Probabilistic Approach to Interest-Rate Scenarios. PAIRS uses a very large number of yield curve scenarios (currently more than 1500) to ascertain the worst case move for each currency portfolio. The equivalent of the margin level review for futures in the case of swaps is an examination of the completeness of the assumed yield curve permutations in the light of observed margin adequacy.

LCH expects to continue to use the PAIRS model to calculate the initial margin requirements for cleared interest-rate swaps for the foreseeable future. LCH anticipates that it will continue to refine and improve its methods of setting appropriate, prudent yield curve scenarios, while working on a new margining method that will offer greater flexibility in handling a broader

range of swap types and enabling cross-margining with other cleared contracts. In respect of the OTC energy derivatives contracts that it proposes to clear, LCH intends to use London SPAN® to generate initial margin requirements because the contracts share many economic characteristics of futures contracts. In the case of any future expansion of contract types cleared as a registered DCO, LCH would look to use one of its established initial margining methods, with necessary adaptation, on the basis of an assessment of which most appropriately measures the risk of a new contract type.

LCH generates initial margin requirements for the LIFFE, IPE and LME contracts cleared by its members from the London SPAN® system, which is a risk-based model that uses various assumptions to generate appropriate results. Initial margin levels (scanning ranges) for each futures contract, and volatility range assumptions for options, are the basic inputs. On the basis of the input assumptions, London SPAN® calculates a worst case initial margin requirement for each pair of futures and the related options on futures. A members' portfolio requirement is the sum of the worse case contract level requirements less any inter-contract margin offsets granted on the basis of proven correlations in the price behavior of different contracts. Scanning ranges, which represent price movements, up and down, greater than those thought likely to occur on one or more days, are set by the Risk Department of LCH (described in Part IV), in consultation with exchange staff but without member involvement in the decision making at clearing house or exchange level. In the event of disagreement between LCH and exchange staff, LCH's view holds sway, under the terms of the agreement between LCH and the relevant exchange (see above).

Initial margin setting for the other markets cleared follows the same overall discipline and method, because LCH's policy is that the requirements for each market should be of equivalent resilience. The models employed in the establishment of initial margin requirements, however, do vary. RepoClear uses an adaptation of London SPAN® and the reviews of the appropriateness of the price assumptions about the different types of bonds are similar to those for comparable reviews of futures contracts. Adaptation of London SPAN® was not considered appropriate for either swaps or cash equities.

The cash equities model (ERA – Equity Risk Assessment) was developed because of the experience of trying to establish and regularly review some 2000 margin levels for the Tradepoint market, using a SPAN-type approach. ERA employs an historical simulation approach in which each member's portfolio is subjected to the most extreme adverse price moves seen over the past year. The simulation result is then augmented by 40% to allow for changes in the portfolio over the post-trade three day settlement cycle.

PAIRS and ERA were developed by LCH with considerable member input. They were both reviewed by the FSA, and notably by its Traded Risk Department, before LCH began to clear swaps and LSE equities.

On the basis of the positions registered at LCH, an overall margin requirement is established for each LCH member, covering all the contracts registered in the member's name at LCH.<sup>10/</sup>

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<sup>10/</sup> The risk-reducing effects of the price correlation or covariance of contracts can be factored in to London SPAN® by means of margin offsets called "inter-commodity savings". LCH, in conjunction with the

Separate requirements are calculated for house and client accounts. Each account is margined in relation to net positions. If a member registers positions in both house and client accounts, it must simultaneously meet a requirement for each account. Initial margin requirements are recalculated daily, on the basis of end-of-day open positions, for all registered contracts. Recalculation occurs more frequently for all contracts other than futures and options.

Margin levels are routinely reviewed on a quarterly cycle. Additional reviews occur when a margin level is challenged or exceeded by price movements or when an unexpected event is announced between reviews (for example, sudden news of a political or economic event). The primary focus in setting margin levels is on price history, close-to-close and intra-day range movements. Analysis based on price data is augmented by the implied volatility of related option contracts and assessment of imminent, known price-sensitive events. In the case of commodity contracts, observed seasonal patterns also are taken into account in setting margin levels. LCH has full authority to implement an increase in margin levels applicable to any or all of its members (*LCH Regulation 12(e)*; *LCH Procedure 1.10*).

LCH currently accepts margin cover in the form of cash (nine currencies), government bills, notes and bonds (all major European government issuers plus US and Canadian Treasuries), guarantees and certificates of deposits (“CDs”) issued by approved banks, and a range of UK equities. The bank guarantees are of a standard legal form drawn up by LCH. The cash margin (currently 32% of total cover) is held on short-term deposit with approved banks based in London or used to purchase CDs issued by those banks. The minimum credit-rating standards for approved banks and the associated policy on exposure limits are set by the Board of LCH. There have been no losses on such deposits. The government securities and equities held as margin cover are marked to market daily and subject to haircuts, currently ranging from 4% to 25%, whose appropriateness is regularly reviewed.<sup>11/</sup> Securities and equities held as margin cover are deposited with depositories and custodians whose credit standing and procedures are evaluated by LCH and kept under review. The cash and non-cash collateral collected by LCH from SwapClear clearing members as margin cover is held, used or lodged in accordance with LCH’s general policies. Such policies do not distinguish either between margin relating to a particular market (for example LIFFE or SwapClear) or between margin provided by any type or nationality of member.

In the case of futures and options contracts, LCH calls additional margin cover if price movements in a contract challenge the adequacy of the prevailing margin level.<sup>12/</sup> In most such cases, actual close-to-close movements are less than the prevailing margin level, and the method

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exchanges, allows such offsets only in cases where there is conclusive evidence of stable correlations between contracts. There are no offsets between contracts traded on different exchanges or between LIFFE’s financial and commodity contracts.

<sup>11/</sup> Securities deposited as margin cover at LCH must be accompanied by standard documentation establishing LCH’s rights. Before securities belonging to members’ clients are accepted as margin cover, a separate client consent form must be completed under which the client acknowledges LCH’s rights to apply the securities in accordance with the LCH Regulations.

<sup>12/</sup> Any intra-day call for additional margin cover prompts an immediate examination of the adequacy of the initial margin level for the affected contract(s).

takes no account of the adequacy of margin across the full range of contracts cleared by a member, or of any profits that the member may have made during the course of the business day, but intra-day calls are of their essence precautionary. Where additional funds are required, they are collected in cash through the Protected Payments System ("PPS"), discussed below. Where surplus cover, in cash or non-cash collateral, is available, it is utilized by LCH to satisfy the call. LCH pre-notifies exchange staff of intra-day calls but its absolute authority is the same as it is for increases in initial margin, and members are not involved in the decision-making process.

The core disciplines are the same for swaps, repos and equities cleared by LCH, but LCH employs a more comprehensive revaluation and re-calculation of initial margin process because of its formal intra-day registration of new positions in these contracts. It has full intra-day revaluation and initial margin re-calculation capability and makes intra-day calls, within certain pre-defined limits, on the basis of such full re-statement of its risk exposure. The calls are made through the PPS system, with the possibility also of late calls for dollars in New York. SwapClear and RepoClear calls are made on the basis of regular reviews of the extent to which members' initial margin requirements have been eroded by valuation losses or superseded by large volumes of new business but are not automatic. In contrast, there is a routine intra-day call in relation to LSE equity business at 12:00 each day. The data are also reviewed routinely at 10:00 and 14:00 and 16:00, and additional calls made as necessary.

Open positions are revalued daily, on the basis of closing prices, and revaluation losses (variation margin) called from members. This is true for all contracts cleared, exchange-traded and OTC. In the case of IPE contracts and LIFFE's financial and commodity contracts (with the exception of equity index options and options on individual equities), variation margin losses are collected in cash through PPS. Members with variation margin profits are paid through PPS. In the case of LME contracts and LIFFE's equity index options and options on individual equities, variation losses are collected in cash or acceptable non-cash collateral but variation gains are credited to members' accounts rather than paid-out.

#### *J. Settlement*

As central counterparty, LCH is responsible for the performance of all registered contracts through to their final settlement. In the case of most futures and options and futures contracts and all swap contracts, that final settlement takes the form of a cash payment from one member to another – that last payment bringing to an end the chain of daily payments initiated after registration and made on the basis of the daily settlement to latest market prices. All such cash payments are made through LCH's Protected Payments System ("PPS"), which is an assured payments arrangement operated by LCH and sixteen banks (PPS banks – list attached as **Exhibit J**) who act as bankers to LCH's members. LCH has accounts with each of the PPS banks and under the terms of their agreement with LCH the banks contract to make irrevocable transfers to LCH accounts on receiving payment instructions from LCH (such instructions also being sent to members, the clients of the banks). LCH makes payments to members by the same arrangements, instructing transfers from LCH's accounts to members' accounts at the PPS banks. Payment for the 'physical' delivery of all commodity contracts cleared by LCH is also made through PPS. In contrast, payment for the 'physical' delivery of all equity-related contracts (cash transactions, single stock futures and options on equities) and of all securities (cash transactions, repos and futures) take place in the delivery-versus-payment arrangements of securities

settlement systems. The majority of such equity-related payments takes place through CRESTCo, the London-based settlement system central securities depository. CRESTCo is authorized and supervised by the FSA. A minority of equity-related payments and the majority of securities payments take place through Euroclear, the Brussels-based settlement system/international central securities depository. The Belgian Banking and Finance Commission is the lead regulator of Euroclear. A minority of securities payments take place through Clearstream (Luxembourg), the settlement system/international central securities depository. The Luxembourg Supervisory Board is the lead regulator of Clearstream (Luxembourg).

The standard daily cycle for PPS payments is as follows:

- Midnight LCH sends out full information of payments due from and owing to members (information sent to PPS banks and to members).
- 09:00 AM Deadline for PPS banks to have made irrevocable commitments to make payments due from members to LCH. Confirmations made by banks using standard form SWIFT message type MT 910.
- 10:30 AM Deadline for members to give instructions to LCH on transfers of cash balances.
- 11:00 AM LCH sends full instructions to PPS banks on calls and pays (MT 950, and MT 202 & 203), arranging simultaneous funding of its accounts at PPS banks and transfers of surpluses through HSBC-Midland, its concentration bank.

Intra-day calls must be confirmed by PPS banks no later than one hour after they are made. The PPS agreement establishes 16:00 as the latest time at which LCH may make a call. PPS bank confirmation is again through an MT 910. LCH makes later calls for dollar payments to be made into its New York account (FedWire transfer), to cover the gap between the 16:00 PPS deadline and its standard 18:00 deadline for new business registration.

LCH obtains 'next day' statements from all PPS banks. These are subject to an automatic reconciliation process and any discrepancies immediately taken up with the banks.

As contractual central counterparty, LCH is obliged to make final settlement if a member defaults in its obligations to do so. In the case of the 'physically' deliverable contracts, operating in a delivery-versus-payment environment, LCH will always have either the deliverable, in which case it has to make money payment, or the payment, in which case it has to make delivery. It has various banking facilities, including facilities linked to securities settlement systems, to ensure money payment. It has the deliverable asset itself as security, and initial margin to protect against price risk. It has various borrowing and buying-in facilities and possibilities to meet obligations to make delivery. It reserves the right, in its *Regulations*, to make a cash settlement if it is unable to borrow or buy the deliverable asset.

If a member defaults because it cannot meet a payment due to LCH, LCH will make all daily settlement payments due to other members, using the defaulter's assets (margin and Default Fund contribution) if they are immediately available or using its own balances or banking lines if they are not (ahead of realization of the defaulter's non-cash collateral held as margin cover).

*K. Relationships with Other Clearing Organizations*

LCH has had a margin offset arrangement with the Chicago Mercantile Exchange since 31 March 2000. The arrangement covers positions held by common and affiliated clearing members of LIFFE and the CME in LIFFE's euribor futures and options and CME's eurodollar futures and options. The arrangement was approved by the CFTC and by the FSA.

*L. Record-keeping*

LCH currently maintains written and electronic information submitted by its members or obtained through information-sharing arrangements with regulatory agencies or the exchanges for at least 5 years after such submission and such records will be readily available for the first two years. LCH maintains its own financial records, rules and regulations and reports of activities and operations, including but not limited to clearing, settlement, members' accounts and margin requirements, for at least six years. LCH's records are maintained in written and electronic format. LCH will adhere to the record retention requirements set forth in CFTC Regulation 1.31.

### **III. Organization of Risk Management and Automated Systems Protections**

As indicated in the objectives stated in its Regulatory Plan (**Exhibit E**), LCH recognizes that the management of counterparty and market risk associated with its central counterparty role, maintenance of adequate capacity and security with respect to its automated (IT) systems and the establishment, testing, evaluation and modification of, and back-up plans with respect to, such systems is integral to the achievement of its objective of providing secure and efficient clearing services to members. These related but distinct areas are discussed separately in this Part III.

#### *A. Risk Management: Counterparty and Market Risk and Internal Audit*

The most obvious risk managed by LCH is that of a member no longer meeting, or being able to meet, its financial obligations to the clearing organization. As the contractual central counterparty to all clearing members, LCH is legally obligated to assume the open, registered positions of the defaulting member and to ensure their settlement or transfer. In so doing, LCH protects the non-defaulting members, their clients, and the cleared markets from de-stabilizing, contagious consequences. It has become standard practice to describe this central role as one of protecting against systemic risk.

In order to control the default risks that it manages, LCH sets minimum capital requirements for members, and monitors compliance with those requirements and the general financial health of its members; establishes margining policies of various kinds, together with monitoring and limits on exposures relative to capital; and maintains a Default Fund and related default cover as a precaution against any situation in which a defaulter's initial margin is insufficient to cover the cost to LCH of managing a default.

There are other risks related to the security of the core policies designed to ensure that LCH can handle the market risk that materializes if a member defaults. The money settlement mechanism is of course central to the daily risk mitigation inherent in re-valuation and variation margining. Equally, as cash forms about one-third of the total initial margin held by LCH and as its Default Fund is entirely cash, it has established policies and controls on the placement of deposits (quality of bank, term and absolute size).

The policies and controls relating to counterparty and market risk (including policies relative to money settlement and exposures to banks) fall under the responsibilities of the Risk Department of LCH, a twenty-strong unit headed by a Managing Director who is also Deputy CEO. New policies designed by the Risk Department are submitted to the Risk Committee of the Board, which also reviews old policies. As mentioned earlier in Part I.A., the boundaries of responsibility are drawn at the frontier between policy and efficacy of policy (Risk Committee responsibility) and day-to-day risk management decisions and actions (Risk Department responsibility).

Responsibility for the implementation of policy and related controls is not confined to the Risk Department. For example, the Treasury unit, which is part of the Finance Department, handles LCH's cash balances on the basis of the corporate policy approved by both the Risk Committee

and Board. Its compliance with the policy is subject both to internal controls and to internal audit and periodic external audit.

The internal audit function conducted by LCH's Internal Risk Control unit (Charter attached as **Exhibit K**) covers all aspects of LCH's activities, drawing on external audit expertise as appropriate, especially on the IT systems side. The unit, whose head reports to the Managing Director, Risk, has appropriate independence and its work is considered and reinforced both by the Executive Audit Committee and the Audit Committee of the Board.

#### *B. Systems Capacity, Security, and Testing*

LCH's core operating systems have fully adequate capacity and that adequacy is regularly reviewed.

LCH's basic technical standard is the old BS 7799, which has become ISO/IEC/17799.

Security Standards are co-ordinated by a Director whose sole responsibility is security and business continuity and contingency planning. He reports directly to the Chief Operating Office.

LCH has just reviewed its 'internal' and 'external' security penetration testing, conducted by the consultancy Xienetica that, *inter alia*, has also worked for the FSA. The 'external' testing confirmed a high level of impenetrability.

New developments are tested in separate environments outside live systems. A new, comprehensive test environment is being established. All user access to LCH systems is co-ordinated by two central units.

All automated systems employed by LCH meet the guidelines issued by the International Organization of Securities Commission (IOSCO) in 1990, as supplemented in October, 2000, including those involving physical security, environmental controls, network management, capacity and systems testing.

#### *C. Back-up and Business Recovery in Event of Emergency and Disaster*

LCH runs two data centers for its core clearing, risk management and banking systems. The primary data center is remote from LCH, which is located in the City of London. The secondary site is in the main offices of LCH and automatically receives the same data as the primary site.

All business platforms have disaster recovery back-up and all have specified minimum times for recovery.

LCH has two office recovery or re-location options. The first is to re-locate in its subsidiary premises, situated about 800 yards from its main site, if the latter is out of action. The subsidiary premises have the same network facilities as the main site. The second option is a special purpose recover site maintained by a major IT company in central London (remote from the City). This site is reserved for emergency use by a number of companies, including LCH.

#### **IV. Default Protections**

LCH takes a pro-active stance with respect to prevention of member defaults by establishing minimum financial requirements applicable to its members, discussed in Part II above. LCH enforces such requirements and the margin requirements applicable to each member, discussed in Part II above, by regularly monitoring each member's financial condition and registered positions. In the event such monitoring indicates that a particular member may be experiencing or could experience financial difficulty, LCH is authorized to take a variety of actions to mitigate any such difficulty or reduce the likelihood of such difficulty occurring. Finally, LCH has established a separate Default Fund, as well as insurance coverage, available for use in the event of a member's default. It does not believe that it can prevent acts of default, no matter how pro-active its risk management, and places great emphasis on its having sufficient financial resource to cover the costs of default and therefore protect the cleared markets.

##### *A. Monitoring*

The aim of LCH's member and position monitoring is to detect, as early as possible, events that may threaten the ability of a member to continue to meet its obligations to LCH. The Risk Department of LCH coordinates information on members' creditworthiness and financial condition. The primary information considered by the Risk Department comprises: financial reports and regulatory returns, external credit-ratings and LCH's own evaluation of standards of management and control. These are set alongside the size and composition of the portfolio of contracts registered with LCH by each member.

LCH pays particular attention to positions that are large in relation either to a member's financial resources or to open interest in a particular contract. In relation to futures business the position monitoring looks at house and client accounts separately and in the aggregate. The basic assessment is undertaken daily on the basis of end of day positions. LCH's intra-day risk measurement capability for futures is currently being updated – full capability is timetabled for April 2002 – and our intra-day monitoring will be enhanced as a result. LCH has full intra-day risk assessment capability for non-futures business (OTCs and cash equities) and performs routine intra-day monitoring of valuation losses and re-calculated initial margin requirements, including new business. If monitoring gives rise to concerns about the size of positions in a member's client account (which at LCH is an omnibus account), further information is sought from the member, notably about the concentration of individual client positions. Although LCH does not routinely collect information on individual client positions,<sup>13/</sup> LCH and the cleared exchanges all have full authority to require members to provide such information (LCH Procedure 1.1.3). In seeking further detail, LCH will often work with an exchange to obtain information directly from a member.

A key monitoring ratio is that of initial margin to financial resources. Another key monitoring ratio compares the size of variation margin payments made by a member to LCH (negative

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<sup>13/</sup> Of the four exchanges cleared by LCH, only LME currently collects information on client-related positions on a routine basis, although there is such reporting of spot month positions for IPE's gasoil contract and LIFFE's commodity contracts.

variation margin or valuation “losses”) with the member’s financial resources (discounted according to internal credit evaluations). Ratios focusing on cumulative variation margin payments on a weekly, bi-weekly, monthly and annual basis are monitored.

#### *B. Remediation*

In situations where developments affecting a member are considered sufficiently serious, LCH has a range of measures at its disposal. It can impose one or more of the following measures, all of which have been exercised at various times:

- higher initial margin requirements;
- additional financial resource requirements (buffers);
- a reduction in positions;
- prior authorization of trades above a certain size;
- position transfer to other members;
- trading for liquidation only;
- gross margining of client account positions; and
- declaration of member default.

(LCH Regulation 12(a), (f); LCH Procedure 1.10)

#### *C. Default; LCH’s Rights; Members’ Obligations*

Under the LCH Default Rules, any of (i) a member’s breach of any of the LCH Regulations, the Clearing Membership Agreement or exchange or regulatory requirements, or (ii) the commencement of insolvency proceedings with respect to the member may constitute an event of default. Following the occurrence of an event of default, LCH may close-out and settle open contracts of the defaulter; transfer open positions to another member (subject to the latter’s consent); enter into new exchange contracts in order to hedge the market risk of the defaulter’s open positions, with or without associated margin cover; or enter into other, off-market contracts for the same purpose. From the perspective of any clients of a defaulting member, the most important aspect of LCH’s Default Rules, in accordance with English insolvency law, is that LCH cannot commingle house and client account positions or margin monies. If it cannot arrange a transfer of client account positions and has to close out some or all of them it must account for any losses and costs and send the net remaining margin to the liquidator/insolvency practitioner in charge of the defaulter’s affairs as an amount separate from any such net sum relative to the defaulter’s house account with LCH.

Provided that LCH follows the default procedures set forth in the LCH Default Rules, English law protects LCH’s rights to net positions, offset profits and losses, realize non-cash margin cover and apply the proceeds, set-off margin against net losses and guard against the risk of the liquidator of a defaulting member “cherry-picking” profitable contracts. LCH’s rights to apply the contributions to its Default Fund, both of the defaulter and potentially of non-defaulters, are established in the LCH Default Fund Rules and in the Clearing Membership Agreement. LCH’s rights to apply participating members’ margin in satisfaction of its agreement on margin offsets

with the CME is established in separate legal agreements. In cases of marked financial deterioration that threaten a member's ability to continue to meet its on-going financial obligations to LCH, LCH will consult with the member to try to establish the exact situation and whether any 'pre-default' actions are necessary (for example, a transfer of client positions; a reduction of house positions or other appropriate action). Such consultation and action may of course be followed by non-payment of margin or insolvency, both of which are automatic acts of default. In the latter cases, LCH cannot consult and needs to declare default immediately – informing the rest of the market-place as soon as possible – in order to protect that market-place.

In the event of member default, the liability of a non-defaulting member of LCH is limited to its contribution to the Default Fund and its shareholding in LCH.

*D. Financial Resources; Priority*

LCH maintains a Default Fund which currently stands at £301 million (\$421 million) and is capped at £400 million (\$560 million) until amendment, and additional insurance cover of £100 million (\$140 million) to meet default losses in excess of margin cover. The Default Fund is provided by members and is held in cash by LCH. It is therefore of the highest availability and liquidity. Members' contributions to the Default Fund are based on each member's clearing activity - initial margin and registered volumes. Minimum contribution to the Default Fund currently is £100,000 (\$140,000). In the event of a member's default, LCH would apply such member's initial margin and any surplus cover from the defaulter to cover losses and costs arising from the default. In the event that such initial margin and any surplus cover were insufficient, LCH would apply the following funds, in order of recourse:

<b>Source</b>	<b>Liquidity</b>
Default Fund contribution of defaulter (x)	Cash deposits in LCH's name
Current year's pre-tax, pre-rebate earnings of LCH up to a maximum of £10 million	As above
Default Fund contributions of non-defaulting members (£301 million less x)	As above
Insurance cover <sup>14/</sup> of £100 million	Available to LCH within 10 business days of a claim being made
LCH's capital, currently approximately £62 million	Cash deposits in LCH's name

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<sup>14/</sup> LCH's insurance cover is available in the event that LCH suffers default losses totaling £150 million (\$210 million) over any three-year period. The insurer is Lexington, a wholly-owned subsidiary of AIG, and the risk is underwritten by a syndicate of six banks. LCH is in the process of arranging alternative, increased cover.

Solely for the purposes of calculation and collection, LCH's Default Fund is divided into four Fund Amounts: Exchange Fund Amount (EFA), EquityClear Fund Amount, RepoClear Fund Amount, and SwapClear Fund Amount (SFA). For example, a member clearing only LIFFE futures and options through LCH contributes only to the EFA, while a bank whose clearing activities are confined to interest- rate swaps contributes only to the SFA. A member active across all of the markets cleared contributes to each of the four Fund Amounts. However, for the purposes of application in the event of member default, the Default Fund is one quantity and the component Fund Amounts have no relevance. That is to say, the whole Default Fund is available to cover losses arising from any default, regardless of the scope of the clearing activities of the defaulting member and all contributions would be applied on a pro rata basis, regardless of the scope of clearing activities of the non-defaulters.

LCH is committed to ensure that its post-default backing is of appropriate size. Current assessment of the appropriate size of the Default Fund is based on a value-at-risk model developed by the Risk Department of LCH, with external advice on statistical method. LCH has just introduced a new scenario-based model that is running alongside the value-at-risk approach. The models test the adequacy of initial margin requirements across the entire membership of LCH, looking at house and client accounts separately, on the basis of a series of extreme price movements in all contracts. The tests are run on a daily basis and the results assessed alongside other risk measures and ratios. The emphasis has been on whether the core Default Fund is adequate in size to enable LCH to cope with the default of the largest member exposure in the very extreme conditions replicated in the model. LCH is committed to continuance of the testing and to taking action in relation to any findings that suggest that the Default Fund is too small. Results are assessed daily by the Risk Department and on a quarterly basis by the Risk Committee which reports on adequacy to the Board. Since 1996, LCH has increased the Default Fund from £150 million (\$210 million) to its current £301 million (\$421 million), and has made provisions for a further increase up to a maximum £400 million (\$560 million).

In putting in place these arrangements and procedures, LCH aims to have protection from attack under insolvency laws under Part VII of the UK Companies Act. Part VII provides, broadly, that procedures carried out pursuant to the default rules of an RCH take precedence over the rights of a liquidator or other insolvency office-holder. Part VII covers action taken by LCH in relation to exchange traded and OTC positions.

## **V. Enforcement of Rules; Dispute Resolution**

LCH is required under the FSAct (which requirement will also exist under the FSMA) to have procedures and arrangements in place to enforce its rules. In practice, as the majority of those rules, as laid out in the LCH Regulations including its Procedures, relate to the daily compliance with financial obligations, or the daily or monthly compliance with delivery obligations, or the quarterly re-calculation of Default Fund contributions, enforcement is routine and essentially automated. As a specialist central counterparty clearing house, LCH does not have conduct of business rules of the kind established by the exchanges whose contracts it clears or the regulators of its member firms.

Because non-compliance with most rules is so visible – and would constitute an act of default under LCH’s Default Rules – compliance can be said to be mandatory. In the case of financial resource requirements, Risk Department staff check compliance (their work being independent of the requirement on members to inform LCH if they fall below the minima). LCH has no published list of disciplinary actions. In the two recent cases of members whose financial resources have fallen below the required minimum, LCH has called for a cash deposit more than equivalent to the deficiency and has held that deposit – on a non-interest payable basis – until the financial returns of the members have shown compliance. This is a financial penalty which also provides LCH with additional risk coverage should the reduction in financial resource be a prelude to failure and default. Delivery failures in the case of exchange-traded contracts are covered by exchange contract terms, reinforced by LCH’s Regulations. Under exchange terms and rules, financial penalties apply where LCH has to ‘buy-in’ the securities or equities that a member has failed to deliver. The exchanges then consider whether further action should be taken for contravention of their requirements. In the case of LCH’s RepoClear, LCH Regulation 59 (c) establishes that if a member persistently fails to deliver securities to LCH, LCH shall be entitled to terminate membership of the firm in question, on written notice, requiring liquidation or transfer of open contracts. LCH has not had to apply Regulation 59 (c).

The FSMA introduces a new requirement that LCH should appoint an independent person as part of its complaints procedure. LCH has not had need of such a formal procedure before, and has not had to deal with any such complaint. It is in the process of deciding on the detail of its formal procedure.

## **VI. Undertakings**

In connection with this Application, LCH undertakes and commits to the following:

- (a) LCH will make available to the CFTC on a periodic basis information relative to its financial resources and stability (Default Fund, default insurance, capital base) similar to the information currently provided to the CFTC by the FSA as agreed in the bilateral side-letter of 24 May 1999 to the US-UK Memorandum of Understanding of 25 September 1991. LCH will also provide information on its governance arrangements, organization and general clearing activities that is relevant to its continued adherence to the core principles established in the CFTC's Part 39 Rules.

It will also provide the CFTC on a non-routine, ad hoc, basis with information of any declaration of member default, whether or not the member in question is active in the products relevant to this application, and will keep the Commission informed of the impact of the default on the adequacy of its financial position.

- (b) LCH will be cognizant of antitrust considerations and will not adopt any regulation or take any other action that would result in an unreasonable restraint of trade or impose any material anticompetitive burden on trading in the products it clears in its capacity as a DCO unless such action is appropriate to achieve the purposes of the CEA.
- (c) LCH will safely store and retain all records of its operations as a DCO for at least five years and make such clearing and banking records readily available to the CFTC for at least the first two years following their creation by on-site access during LCH's normal hours of operation and/or providing copies following the CFTC's request. All books and records of LCH pertaining to its operations as a DCO will be open to inspections by any authorized representative of the CFTC or of the U.S. Department of Justice. LCH will adhere to the record retention requirements set forth in CFTC Regulation 1.31.
- (d) LCH will maintain a valid, effective, and binding agency agreement with a person located in the United States whereby it authorizes that person to act as its agent for purposes of accepting delivery and service of communications. Such communications include any summons, complaint, order, subpoena, request for information, notice or any other written document or correspondence issued by or on behalf of the CFTC, the United States Department of Justice, any self-regulatory organization, or any member of LCH. LCH will provide immediate, written notice to the Commission of any change concerning the status of the party identified as the agent for the service of process or the effectiveness of any agreement with such party.

## **VII. Conclusion**

This Application demonstrates in detail LCH's compliance with each of the core principles for registration as a DCO. LCH has acted as a central counterparty clearing organization since 1888. As set forth herein, LCH is subject to a comprehensive regulatory regime in the UK, including oversight by its primary regulator, the FSA. LCH has established stringent financial, operational, experience and competency standards for its members, whose continued financial health it regularly monitors and evaluates. Notwithstanding this oversight, effective collateralization requirements are central to LCH's risk management program. In addition, LCH has a rigorous intra-day margining policy and monitors the creditworthiness and market exposure of each member on an ongoing basis. LCH maintains adequate financial resources and liquidity in the form of capital and bank lines to meet its daily operational needs, and a large Default Fund, held in cash and therefore immediately available, and insurance backing to satisfy its obligations in the event of a member default. LCH's default actions are fully protected under UK law. LCH assures the operational viability and security of its clearing, banking and treasury functions through the maintenance of high systems standards and comprehensive back-up and business recovery facilities. Finally, LCH's membership and clearing structure is open and transparent and will not create any anticompetitive restraint on trading in the markets that it clears and, by reducing counterparty credit risks in those markets, may enhance the efficiency and competitiveness of such trading.

Should you have any questions regarding the Application, please feel free to contact Andrew Lamb, Managing Director of Risk at LCH, on +44-20-74-26-70-55 (lamba@lch.co.uk).

Very truly yours,

Michael Philipp

Enclosures Exhibits A-K

cc: Andrew Lamb, London Clearing House  
Susan Ward, London Clearing House  
Arthur Hahn, Katten Muchin Zavis  
Heidi Rauh, Katten Muchin Zavis  
Edward W. Colbert, Assistant Secretary to the Commission  
for FOI, Privacy and Sunshine Act Compliance

**SCHEDULE I**

**INDEX OF**

**DEMONSTRATION OF COMPLIANCE**

**WITH**

**CORE PRINCIPLES**

**APPLICABLE TO**

**DERIVATIVES CLEARING ORGANIZATIONS**

This Index lists the core principles applicable to Derivatives Clearing Organizations under the Commodity Exchange Act and Proposed Part 39 of the Regulations of the Commodity Futures Trading Commission and provides cross-references to the Sections of the Application for Registration as a Derivatives Clearing Organization submitted on behalf of the London Clearing House Limited (the “Application”), to which this Index is attached.

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**CORE PRINCIPLE**

**APPLICATION SECTIONS**

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**CORE PRINCIPLE**

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