

**Australian Prudential Regulation Authority
Capital Adequacy Treatment of Credit Derivatives (April 1999)**

**Comments of the
International Swaps and Derivatives Association, Inc.**

15 July 1999

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Executive Summary

ISDA welcomes APRA's review of the capital treatment of credit derivatives as a positive step towards the improved regulation of credit risk mitigation instruments.

ISDA in particular welcomes the fact that **credit derivatives are eligible for trading book treatment under the proposed rules.**

We strongly support the approach taken to the **treatment of maturity mismatches in the banking book**, where partial capital relief is granted on the basis of the percentage on the underlying asset covered by the hedge.

ISDA further supports the **proposed treatment of maturity mismatches in the trading book**, considering that APRA applies only one specific charge as opposed to two in a number of countries.

ISDA also finds **appropriate the suggested choice of add-ons** for the calculation of the counterparty risk charge.

We are less convinced by the proposed treatment of **first-to-default basket products**, which we view as unduly conservative for both protection sellers and protection buyers.

ISDA is furthermore concerned by the lack of recognition of **specific risk offsets in the trading book**, which does not appear technically justified and would place Australian authorised institutions at a strong disadvantage relative to foreign competitors.

From a more general standpoint, ISDA believes that some of the regulatory issues raised by credit derivatives can only be addressed by reforming the 1988 Capital Accord. We therefore welcome the decision taken by the Basel Committee to review the Accord and hope that the treatment of credit risk can be substantially improved as a result.

ISDA intends to respond to the Consultation Paper published by the Bank for International Settlements (BIS) in June 1999 with a view to promoting a more flexible regulatory framework, where the benefit of credit risk hedges, and credit derivatives in particular, can be recognised fully by the supervisors.

Australian Prudential Regulation Authority

Capital Adequacy Treatment of Credit Derivatives (April 1999)

Introduction

The International Swaps and Derivatives Association, Inc. (“ISDA”) has taken a keen interest in the development of a regulatory approach to credit derivatives. Our primary purpose was to ensure that the benefits accruing from the use of these products in risk management (see Annex I) were adequately reflected in their capital treatment. ISDA has, to this end, contributed to the thinking of regulators around the world (the UK FSA, the French Commission Bancaire, OSFI in Canada and the BaKred in Germany).

ISDA has also carried out extensive legal work in relation to credit derivatives, which comprises, for instance, the development of a standard form of confirmation for the documentation of such instruments within the scope of the ISDA Master Agreement (see Annex II).

More generally, ISDA has long advocated the introduction of more flexibility and economic soundness in the regulatory treatment of credit risk in the banking book : ISDA’s March 1998 paper “Credit Risk and Regulatory Capital” (on ISDA’s website at www.isda.org) promoted a multi-tier approach to setting credit risk capital requirements. In the promising context of the reform of the Basle Accord, ISDA intends to participate actively in the shaping of the new rules, and in particular, to respond to the consultative paper issued in June by the BIS.

ISDA welcomes the fact that the *Australian Prudential Regulation Authority* (APRA) has taken steps to accommodate the use of credit derivatives within the confines of the current Basle rules, considering that the on-going review of the Accord will probably not come to fruition before 2001.

ISDA has read with interest the consultative document “Capital Adequacy Treatment of Credit Derivatives”. ISDA’s views, set out below, emanate from our large international membership and reflect our continuing pursuit of best risk management standards. Our working parties gather a cross-section of experts, including risk managers and credit derivatives traders from member firms worldwide. Our membership list can be found at Annex III.

This paper is structured in five sections. The first deals with trading book eligibility and treatment. The second focuses on credit risk charges and looks in particular at offsets. The third section addresses the treatment of first to default basket products. The fourth focuses on counterparty risk add-ons. The final section presents ISDA’s views on the necessity to re-cast the capital adequacy framework for credit risk.

It is our sincere hope that APRA will find these comments useful, and that further exchanges of views will take place between our two organisations.

I. Trading book treatment

• Trading book eligibility :

We very much welcome APRA's proposal concerning the *eligibility of credit derivatives for trading book treatment*.

Credit derivatives share many common features with other swaps. As Figure 1 below shows, the resemblance is striking in the areas of market pricing, eligibility for netting, and risk management. Unlike guarantees, credit derivatives can be documented in frameworks such as the ISDA Master Agreement, which allow for standardisation, transferability and special covenants, conducive to a reduction in legal and operational risks. The ISDA Master Agreement further enables counterparty exposures arising from the use of credit derivatives to be netted against similar exposures generated by other forms of derivatives, potentially resulting in further risk reduction.

Salient Characteristics of Credit Derivatives and Other Instruments

	Interest Rate Swap	Total Return Swap	Credit Default Swap	Guarantee
Pricing	Market	Market	Market	Private
Post-Default Costs	N/A	None	None	Work out participation
Risk Management with other Derivatives	Yes	Yes	Yes	No
Marked-to-market	Yes	Yes	Yes	No
Generic Risk Management use	Yes	Yes	Yes	Attached to specific obligation
ISDA Documentation	Yes	Yes	Yes	No
Legal Structure	Standardised	Standardised	Standardised	Bespoke
Netting with other Derivatives	Yes	Yes	Yes	No

ISDA therefore believes that credit derivatives should be treated consistently with other swaps under the existing capital adequacy framework. Credit derivatives would be assigned between the trading and banking books based on existing criteria:

- a. whether the instruments are, in fact, traded (by looking at the intention for which they are held and the way in which they are managed) and
- b. whether the instruments are marked to market.

This test should apply, as with existing derivatives, to all types of credit derivatives¹.

Adopting the above approach would allow credit derivatives to be treated for capital adequacy purposes in a manner consistent with the way they are managed for internal risk management purposes. This is essential, as it should allow capital charges to be determined in

¹ We acknowledge that in some cases this may mean that an instrument would receive higher capital requirements because of inclusion in the trading book, especially if offsets are not recognised.

conjunction with associated offsetting positions and therefore credit risk charges to be determined, to some extent at least, on a portfolio basis. It also permits a closer link between regulatory capital charges and internal risk management practice, a goal that was clearly favoured by the Basle Committee in its adoption of an internal models-based approach to market risk charges.

ISDA recognises that there are instances where booking credit derivatives in the banking book is justified, for instance where these instruments are used as a banking book hedge or where a firm does not have a trading book.

On a point of detail and for the sake of clarity, ISDA would like to suggest that APRA makes explicit whether *loan referenced credit derivatives* are eligible for trading book treatment. We would argue that as long as the credit derivative meets the general trading book eligibility criteria set out above, it should be eligible for inclusion in the trading book.

• **Trading book capital requirements :**

Concerning the *trading book regime*, ISDA agrees with the general approach adopted by APRA. We have, however, some reservations regarding APRA's treatment of offsets, further detailed in Section II below.

As with other derivatives in the trading book, credit derivatives should be subject to capital charges under either the standardised rules or an internal model. Under the latter, the instruments would be subject to analysis by an approved value-at-risk (VAR) model subject to the Basle qualitative and quantitative models standards. Under the former, specific and general market risk charges normally apply. However, it is important to note that for credit derivatives, the general market risk requirement may well, in fact, be inapplicable. This is because for some instruments the structure of the product allows for interest rate risk to be immunised.

Models :

ISDA welcomes the fact that APRA has allowed for the use of models for trading book capital charges. Models make it possible for firms to incorporate offsets in the capital calculations by modelling (i) forward credit risk arising when the maturity of the hedge is shorter than that of the underlying (maturity mismatch), or (ii) recovery rates and default correlation when the hedge is referenced to an instrument distinct from the underlying. Models by definition reflect internal risk management and offer a comprehensive, dynamic, portfolio view of risk.

ISDA is concerned, however, with the fact that some firms may not be able to run full risk models, at least in the short term. To foster firms' endeavours to go beyond the standard rules, regulators should allow the use of simplified models. Although these models provide rougher measures of risk than full models, they approach risks with more accuracy than the standard method. More importantly, they can be calibrated to produce more conservative capital requirements than full models, notably with respect to the treatment of offsets. This should in our view appease possible prudential concerns. Regulators would recognise simplified models on a case by case basis, based on an extensive discussion of their relative advantages and drawbacks with the firms' risk managers.

ISDA would encourage APRA to refer explicitly to the possible recognition of simplified modelling. We would be happy to provide more details about these "pre-processing" models, which we believe are allowed under the Basle Committee regulations.

Standard treatment :

ISDA believes that specific risk charges should apply as per normal rules, by looking through to the underlying reference asset and considering whether it is deemed qualifying. We feel that this should be the case even if the reference asset is a loan. As the current supervisory framework does not address this point, we would suggest that the qualifying nature of such an instrument should be determined by looking to analogous bond instruments of the same credit. Thus, any issuer that meets the qualifying criteria in the Basle rules for its bonds would also have any loans to it deemed qualifying. We recognise that an amendment to the Basle rules might be ideal to clarify this point, but do not feel that APRA should be deterred from adopting this approach in the meantime. We would note in this respect that the term "debt instrument" (which is used in the qualifying test) is not defined in the relevant international banking legislation and could therefore easily be interpreted to include loan instruments.

II. Recognition of offsets

- **General comments :**

ISDA welcomes the fact that APRA is taking steps to recognise offsets.

The offsetting of long and short risk positions is a widely accepted feature of capital adequacy. Regulators have consistently acknowledged the great importance of hedging in prudent risk management. Credit risk is, however, the only remaining area of regulation where recognition of offsetting has been unduly delayed.

ISDA believes that there is a growing understanding among regulators of the need to permit offsetting, reflecting the fact that not recognising credit risk hedging as a risk-reduction mechanism has very negative business and prudential implications.

- **Treatment of offsets in the banking book :**

ISDA particularly welcomes the stance taken by APRA on maturity mismatches and instrument mismatches. ISDA has long advocated the "sliding scale" approach retained by APRA in relation to maturity mismatches, which, although simple, provides for the recognition of hedges on an easily understandable and prudent basis.

As far as instrument mismatches are concerned, APRA sensibly proposes to follow the "seniority rule", by which an offset is recognised where the seniority of the short position is less than (or equal to) that of the underlying position. However, requiring that cross default clauses apply between the underlying and the reference assets does not seem justified in this context : if both instruments are issued by the same obligor, and if the reference is more junior than the underlying, it seems highly unlikely that the underlying can default without the reference itself defaulting.

• **Treatment of offsets in the trading book :**

APRA notes that for credit default products, offsets between the specific risk charge on the credit derivative and that on the corresponding underlying should not be allowed as part of the standard rules, because the idiosyncratic component of specific risk on the underlying position is not hedged by the credit derivative.

ISDA would like to point out that so long as both the underlying and the hedge are marked to market, spread changes impact on both the long and the short position in opposite ways. This should normally result in a quasi-null variation of the MTM value of the pair of positions (this is because it is in general impossible to distinguish between fluctuations resulting from purely idiosyncratic moves, or effective credit quality up/downgrades). This in our view fully justifies a specific risk charge offset.

APRA should also be aware of the fact that most other countries recognise such offsets, which could place Australian authorised institutions at a strong competitive disadvantage.

In the light of the above, we would also like to suggest that APRA re-considers the possibility of allowing offsetting across different credit derivative product types. Provided that credit default products warrant a specific risk charge offset, there is no rationale for not recognising offsetting between a total return swap and a credit default swap.

More generally, applying a capital treatment based on a product type, in the manner suggested by APRA, is artificial, as the differences between the products often become blurred in practice. It is more appropriate to decompose the product into its underlying risk components and treat these consistently :

- a TROR is economically a synthetic bond, hence generating both specific risk and interest rate risk ;
- a credit default product can be seen as the summing of a synthetic bond and a swap (hence carries specific risk and market risk. However the market risk on the swap offsets that on the synthetic bond, leaving just specific risk).

III. First-to-default basket products

ISDA would like to urge APRA to reconsider its proposed treatment of first-to-default basket products. The sum of risk weights approach, whereby the protection seller is regarded as exposed to every single asset in the basket, is unduly conservative. It effectively assumes independence in default between the underlying exposures, a worst case which cannot realistically underpin the capital requirements.

ISDA would argue in favour of a case-by-case approach, where firms are allowed to take into consideration the default correlation between the assets in the basket, subject to approval by the regulator. This should at a minimum be achievable when an obviously strong correlation exists within the basket (exposures to legally connected counterparties, assets the quality of which is primarily influenced by the health of a given country's economy).

In any case, if the proposed treatment of protection sellers is adopted, there is no rationale for restricting the ability of the protection buyer to choose which asset in the basket is hedged : where the seller is seen to acquire the quasi entirety of risk, the buyer should be able to select the asset of his choice for credit risk offsetting purposes.

IV. Counterparty risk add-ons

ISDA approves the approach taken by APRA regarding the choice of add-ons for counterparty risk.

We believe that there is normally a fundamental difference in the counterparty risk exposure assumed by a seller of credit protection and the buyer of that protection. This then raises the question of how best to capture this risk for regulatory capital purposes. In this respect, we note that the current international standards for counterparty risk are deficient in a number of respects (e.g., the broad, basic add-on charges and crude recognition of PFE netting) and that a model-based approach provides a better means of capturing this risk accurately in general, and in relation to asymmetric credit protection counterparty risk in particular.

However, there is a need, in the interim, to accommodate credit derivatives in the current regime based on current mark-to-market exposure plus notional principal value multiplied by an add-on. In this context, the only variable in the current regulatory regime open for adjustment is the particular add-on to apply. We therefore think that, as a general rule of thumb, the asymmetry of risk may be approximated by applying equity add-ons to protection buyers and interest rate add-ons to protection sellers. This is, however, a relatively blunt rule and it will be necessary to allow flexibility to modify charges in particular cases and depending on the exact structure involved. For example, in the case of a credit default option where all premia have already been received there is clearly no need for a charge, as would be the case with existing option products on other underlying instruments.

We would note that imposing higher add-ons on protection buyers than those applied to equity holdings would be illogical, considering that equity is the most junior form of debt and that credit derivative reference assets are of equal, if not usually higher, seniority.

There is furthermore a strong case for differentiating between qualifying and non-qualifying underlyings in assigning counterparty risk add-ons for protection buyers, with equity add-ons applying to the latter, and interest rate add-ons, to the former.

V. Amending the international framework

ISDA has long pressed regulators to launch a fundamental review of the capital adequacy framework, with the aim of making it more risk-sensitive, dynamic and flexible. A number of the prudential questions posed by credit derivatives can be solved if the regulators accept to place more reliance on the banks' own risk management systems. Offsets are a case in point in this respect.

As APRA is aware, ISDA has published initial proposals for reform in this area (see ISDA's March 1998 paper "Credit Risk and Regulatory Capital" on our website at www.isda.org). We would like to take this opportunity to invite you to consider the merits of our proposals for an evolutionary models-based approach. We believe that this framework provides a way to adapt the current rules to recent innovations in credit risk management, while both recognising differences between banks and providing prudent incentives to improve risk management practice.

ISDA strongly welcomes the initiative taken by the Basle Committee of publishing a consultative document on the Basle Accord review. We will endeavour to assist the regulators in the revision of the rules, notably by responding formally to the consultation.

Finally, ISDA would like to reiterate its appreciation for the opportunity to respond to APRA's draft rules. We hope that APRA finds our comments useful and that a fruitful dialogue can be established between our two organisations, in particular on the on-going review of the Accord.

ANNEX I: Risk Management Benefits of Credit Derivatives

In the same way as equity, commodity, foreign exchange and interest rate derivatives enable the management and transfer of a variety of types of risk, credit derivatives enable institutions to manage credit risk. Banks and other financial institutions provide credit intermediation services. As a result, they are constantly subject to credit risk. Credit derivatives provide these institutions with powerful tools to manage such risk exposures. For example, credit derivatives allow banks to isolate and transfer their underlying loans in a way that may not otherwise be possible due to legal or relationship reasons. In addition, the instruments may help strengthen the quality of a bank's loan portfolio, counteracting the loss of higher quality credits to the securities markets.

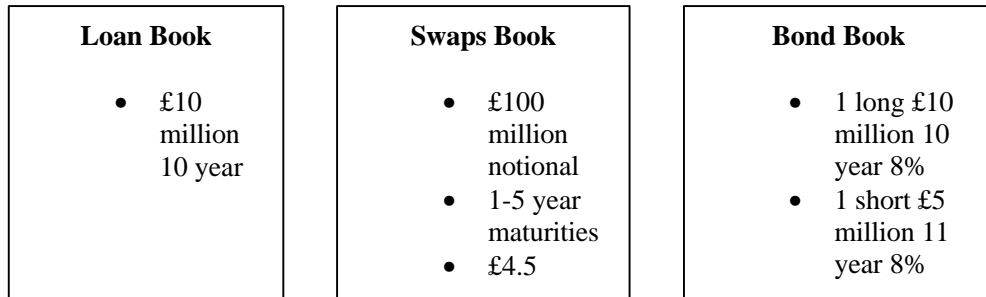
It is important to recognise, however, that the benefits of credit derivatives extend not only to the full range of exposures arising from commercial banking but also to exposures from trading activities. Credit derivatives may, for example, be used to hedge a concentrated position in an issuer's bonds or securities. Similarly, an institution could protect itself against default from a current net mark-to-market counterparty exposure in its swaps portfolio by entering into a credit derivative transaction.

Private sector financial institutions are moving towards such a "portfolio approach" to credit risk management, recognising that an institution's true net credit exposure can only be analysed across the full range of its instruments. Credit derivatives are an important component in the development of this approach, as they can provide greater customisation, ease of execution, enhanced liquidity and price transparency for credit risk. They are also of vital importance for the traditional credit risk management methods of diversification, securitisation, and the development of credit policies and limits. In sum, credit derivatives make it easier for institutions to realise the July 1994 Basle/IOSCO risk management guidelines goal "to evaluate credit risk at the customer level across all products."

We are convinced that the supervisory framework for credit derivatives should adequately encourage or accommodate this development toward an integrated approach to risk management. The current rules apportion credit risk into three categories: banking book credit risk, trading book specific risk for each issue and counterparty risk from each book, rather than facilitating an integrated approach to this risk and its management with credit derivatives. The attached figure shows an example of an integrated approach to risk management.

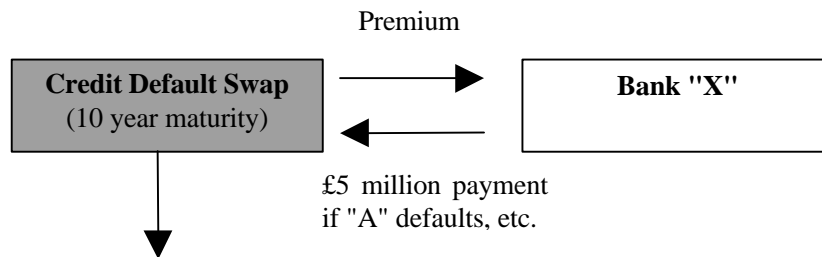
An Integrated Approach to Credit Risk Management

Three sources of exposure to bank "A":



TOTAL* CREDIT EXPOSURE TO BANK "A" : £20 MILLION
 (£10 million loans) + (£5 million current + potential future exposure)
 + (£5 million net** specific risk)

THEN, TO HEDGE £5 MILLION OF EXPOSURE:



NET CREDIT EXPOSURE TO "A": £15 MILLION

* Risks for different books are simply summed, more advanced portfolio credit risk management might permit recognition of long and short credit risks in different books.

** Note that supervisory rules would not permit such netting because of maturity mismatch.

ANNEX II: Credit Derivatives Documentation

ISDA is sponsor of standard OTC derivatives documentation, covering a wide range of products. Recently, ISDA expanded the scope of its project by developing standard documentation for OTC credit derivatives. In an attempt to address legal and documentation risk for these products and provide greater legal certainty, we have produced a form of confirmation for credit default products applicable to non-sovereign entities. The Credit Default Swap Confirmation is intended to be used as a template for OTC credit default transactions. It has been developed for use in conjunction with the 1992 ISDA Master Agreement, on the basis that the netting provisions of the Master Agreement apply to credit derivative transactions as to any other derivative transaction.

Currently, ISDA is developing a credit derivatives definitions booklet which will incorporate short-form confirmations. Following on from that, ISDA aims to produce a User's Guide to these definitions. Ultimately, ISDA might also seek to provide language for total return swaps and spread options.

We would be happy to provide any further information about the Credit Default Swap Confirmation and current progress in the drafting of other documentation.

ANNEX III: ISDA Members

ISDA PRIMARY MEMBERS

Abbey National Financial Products
ABN AMRO Bank N.V.
ABSA Bank Ltd.
African Merchant Bank Limited
AIG Financial Products Corp.
Allied Irish Banks, plc
AON Financial Products, Inc.
Arab-Malaysian Merchant Bank Berhad
Argentaria
Artesia Bank N.V./S.A.
Asahi Bank, Ltd.
ASLK-CGER Bank N.V. S.A.
Australia and New Zealand Banking Group, Ltd.
Bacorb Bank s.c.
Baden-Wuerttembergische Bank AG
Banca Akros Spa
Banca Commerciale Italiana
Banca CRT- Cassa di Risparmio di Torino
Banca del Gottardo
Banca Del Salento Credito Popolare Salentino S.p.A.
Banca di Napoli
Banca di Roma S.p.A.
Banca Intesa SpA
Banca Monte Dei Paschi Di Siena SpA
Banca Nazionale del Lavoro
Banco Bilbao Vizcaya, S.A.
Banco Central Hispanoamericano, S.A.
Banco de Negocios Argentaria, S.A.
Banco Espanol de Credito, S.A. (BANESTO)
Banco Espirito Santo e Comercial de Lisboa, S.A.
Banco Inversion, S.A.
Banco Portuges de Investimento S.A.
Banco Portuges Do Atlantico
Banco Santander
Bank Austria AG
Bank Brussels Lambert
Bank Handlowy w Warszawie S.A.
Bank Hapoalim B.M.
Bank Julius Baer & Co. Ltd.
Bank Labouchere N.V.
Bank of America
Bank of Boston
Bank of Ireland Group Treasury Limited
Bank of Montreal
Bank of New York
Bank of Nova Scotia
Bank of Scotland Treasury Services plc
Bank of Tokyo-Mitsubishi, Ltd.
Bank Rozwoju Exportu
Bankers Trust Company
Bankgesellschaft Berlin AG
Banque CPR
Banque Nationale de Paris
Barclays de Zoete Wedd Ltd.
BAWAG, Bank Fur Arbeit und Wirtschaft
Bayerische Landesbank Girozentrale
Bayerische Hypo-und Vereinsbank AG
Bear, Stearns & Co. Inc.
BFG Bank, AG
BHF Bank (Berliner Handels-und Frankfurter)
BSN Commercial Bank (Malaysia) Berhad
Caboto Holding SIM S.p.A.
Caisse Centrale des Banque Populaires
Caisse des Depots et Consignations
Caixa Geral de Depositos, SA.
Caja de Ahorros Y Monte de Piedad de Madrid
Capital Reinsurance Company
CEDEF Capital Services SA
Ceskoslovenska Obchodni Banka, A.S.
Chase Manhattan Bank
Christiania Bank

CIBC World Markets
Citibank, N.A.
Cofiri SIM S.p.A.
Commerce International Merchant Bankers Berhad
Commerzbank AG
Commonwealth Bank of Australia
Compagnie Financiere de CIC et de L'Union Europeene
Confederacion Espanola de Caja de Ahorros
Credit Agricole Indosuez
Credit Commercial de France
Credit Communal de Belgique
Credit Lyonnais
Credit Suisse Financial Products
Creditanstalt-Bankverein
Credito Italiano S.p.A.
Dai-ichi Kangyo Bank, Ltd.
Daiwa Bank, Ltd.
DBS Bank (The Development Bank of Singapore Ltd)
Daiwa Europe Bank Plc
Den Danske Bank
Den Norske Bank ASA (DnB)
Deutsche Morgan Grenfell
DG Bank Deutsche Genossenschaftsbank
DKB Financial Products, Inc.

Donaldson Lufkin & Jenrette
Dresdner Bank AG
 Elf Trading S.A.
 Enron Corporation
 Erste Bank der Osterreichischen Sparkassen AG
 First National Bank of Chicago
 First Union National Bank
 Fleet Financial Group, Inc.
 Fuji Bank Ltd.
 Fuji Capital Markets Corp.
 General Re Financial Products Corp.
 Generale Bank
 Goldman Sachs & Co.
 Halifax plc
Hamburgische Landesbank Girozentrale
 HSBC Midland
 IBI International Limited
IKB Deutsche Industriebank AG
 INA SIM S.p.A.
 Industrial Bank of Japan, Limited
 ING Bank
 ING Baring Financial Products
 Intercapital Brokers Ltd.
 Investec Bank Limited
 Investicni a Postovni banka, a.s.a
 J. Henry Schroder & Co. Limited
 J.P. Morgan Securities Ltd.
 Juyo Bank, Ltd.
 Keybank National Association
 Landesbank Baden-Wuerttemberg
Landesbank Hessen - Thueringen Girozentrale
Landesbank Rheinland-Pfalz Girozentrale
Landesbank Sachsen Girozentrale
Landesbank Schleswig-Holstein Girozentrale
Lazard Brothers & Co. Limited
 Lehman Brothers
 Lloyds Bank Plc
 Long-Term Credit Bank of Japan
 Macquarie Bank Ltd.
Maple Partners Bankhaus GmbH
 MeesPierson, N.V.
 Mellon Bank, N.A.
 Merrita Bank Ltd
 Merrill Lynch & Co., Inc.
 Mitsubishi Trust and Banking Corp.
 Mitsui Bussan Commodities Limited
 Mitsui Trust & Banking Co. Ltd.
 Morgan Stanley & Co. Inc.
 National Australia Bank Limited
 National Bank of Canada
 National Bank of Greece
 Nationale Investeringsbank N.V.
 NationsBank
 NatWest Capital Markets Limited
 Nedcor Bank Limited
 New Japan Securities Co., Ltd.
 Nikko Securities Co., Ltd.
 Nippon Credit Bank Ltd.
 Nomura Capital Services Inc.
Norddeutsche Landesbank Girozentrale
 Norinchukin Bank
 NTLA Financial Services B.V.
 Nykredit Bank A/S
 Osterreichische Postsparkasse Aktiengesellschaft
 Paribas
 Prebon Yamane USA Inc.
 Prudential Global Funding Inc.
 Rabobank Nederland
 Raiffeisen Zentralbank Austria AG
 Rand Merchant Bank Limited
 Refco Capital Markets, Ltd.
 Republic National Bank of New York
 Robert Fleming & Co. Limited
 Rossiysky Kredit Bank
 Royal Bank of Canada
 Royal Bank of Scotland plc
 Sakura Bank Limited
 Sakura Global Capital
 Sal. Oppenheim jr. & Cie KGaA
 Salomon Smith Barney Holdings Inc.
 SANPAOLO-IMI SPA
 Sanwa Bank Limited
 Sanwa Financial Products
 Sanwa International PLC
 Saudi International Bank
 Shoko Chukin Bank
 Skandinaviska Enskilda Banken
 Societe Generale
 Standard Chartered Bank
 Standard Corporate and Merchant Bank
 State Street Bank & Trust Company
Suedwestdeutsche Genossenschafts-Zentralbank AG
 Sumitomo Bank Capital Markets, Inc.
 Sumitomo Bank Ltd.
 Sumitomo Trust and Banking Co., Ltd.
 Suntrust Capital Markets, Inc.
 Svenska Handelsbanken (Handelsbanken Markets)

SwedBank
Swiss Re Financial Products
Tokai Bank Ltd.
Tokyo-Mitsubishi International Plc
Toronto Dominion Bank
Toyo Trust and Banking Company, Limited
Trinkaus & Burkhardt KGaA
UBS AG
Unibank A/S
Westdeutsche Genossenschafts-Zentralbank eG
Westdeutsche Landesbank Girozentrale
Westpac Banking Corporation
Yasuda Trust & Banking Co., Ltd.
ZUERCHER KANTONALBANK
Zurich Capital Markets
TOTAL PRIMARY MEMBERS: 206

ISDA ASSOCIATE MEMBERS

Algorithmics, Inc.
Allen & Overy
American Management Systems Inc. (AMS)
Anderson Mori
Arthur Andersen & Co.
Arthur Cox Solicitors
Australian Financial Markets Association
Baker & McKenzie
Blake, Cassels/Lavery de Billy
Bloomberg Financial Markets
Brown & Wood
Buruma Maris
C-ATS Software Inc.
Cadwalader, Wickersham & Taft
Camejron McKenna
Capital Market Risk Advisors, Inc.
Cedel
Chicago Mercantile Exchange
Cleary, Gottleib, Steen & Hamilton
Clifford Chance
Clyde & Co
Coudert Freres
Cravath, Swaine & Moore
Davis Polk & Wardwell
De Brauw Blackstone Westbroek
De Pardieu Brocas Maffei & Associates
Debevoise & Plimpton
Dechert Price & Rhoads
Deloitte & Touche
Denton Hall
Dewey Ballantine
Documentum
EBS Partnership
Ernst & Young LLP
Euroclear
Field Fisher Waterhouse
Financial CAD Corporation
Finnish Bankers Association
FNX Limited
Freshfields
Fried, Frank, Harris, Shriver and Jacobson
Front Capital Systems AB
Gibson, Dunn & Crutcher LLP
Gide Loyrette Nouel
GovPX
Hammond Suddards
Harney Westwood & Riegels
Herbert Smith
Howard Smith & Levin LLP
Hughes Hubbard & Reed
Imagine Software Inc.
Infinity International Financial Technology
Integral Development Corporation
Intuitive Products International Corp.
IQ Financial Systems
ITS Trading Systems Limited
Jones, Day, Reavis & Pogue
Katten Muchin & Zavis
KMV Corporation
KPMG Peat Marwick LLP
Latham & Watkins
LeBoeuf, Lamb, Greene & MacRae
Lee & Li
Liffe (London Int'l Fin. Futures & Options)
Linklaters & Paines
Loeff Claes Verbeke
Login S.A.
Lombard Risk Systems Ltd.
London Clearing House Ltd.
Longview International
Lovell White Durrant
M A T I F
Malleons Stephen Jaques
Mayer, Brown & Platt
McCann Fitzgerald
McMillan Binch
Milbank, Tweed, Hadley & McCloy
Mitsui, Yasuda, Wani & Maeda
Monis Software
Moody's Investors Service, Inc.
Morgan, Lewis & Bockius
Murex International Software
Nauta Dutilh
Norton Rose
Ogilvy Renault
Osler, Hoskin & Harcourt
Patton Boggs LLP
Price Waterhouse
Principia Partners
Punder, Volhard, Weber & Axster
QT Software AG
Reuters
Richards & O'Neil
Rogers & Wells
Rolfe & Nolan

S.W.I.F.T. sc
Schulte Roth & Zabel LLP
Shearman & Sterling
Sidley & Austin
Simmons & Simmons
Simpson Thacher & Bartlett
Skadden, Arps, Slate, Meagher & Flom
Slaughter and May
SNS Systems Inc.
Standard & Poor's
Steins Bisschop Meijburg & Ci, Advocaten
Stikeman, Elliott
Stroock & Stroock & Lavan
Studio Legale Bisconti
Sullivan & Cromwell
Summit Systems Inc.
Synamic Limited
Telerate Systems Inc./Dow Jones
Tory Tory DesLauriers & Binnington
Travers Smith Braithwaite
Udwadia, Udeshi & Berjis
Ughi e Nunziante
Uria & Menendez
Watson, Farley & Williams
Weil Gotshal & Manges
White & Case
Wilde Sapte
William Fry Solicitors
Wilmer, Cutler & Pickering
TOTAL ASSOCIATE MEMBERS: 124

ISDA SUBSCRIBER MEMBERS

A/S Eksportfinans
AB Svensk Exportkredit
ABB Capital B.V.
African Development Bank
Alberta Treasury
Alliance - Invest Co.
American Express Company
American Honda Finance Corporation
American Re
B. Metzler seel Sohn & Co. KgaA
Banc One Funds Management Company
Bank for International Settlements
Bank Nederlandse Gemeenten, nv
British Petroleum Company p.l.c.
Caisse Autonome De Refinancement
Caisse Centrale Desjardins
Caisse Centrale Du Credit Immobilier de France
Canada Mortgage and Housing Corporation
Cargill Financial Services Corporation
Citadel Investment Group, L.L.C.
Council of Europe Social Development Fund
DePfa Bank AG - Bauboden
DePfa Deutsche Pfandbrief Bank AG
DGZ - Deka Bank
Dow Chemical Company
DSL Bank, Deutsche Siedlungs-und Landesrentenbank
Eastern Power & Energy Trading Ltd.
El Paso Energy Marketing Company
Electricite de France
Eskom
EUROFIMA
European Bank for Reconstruction & Development
European Investment Bank
Export Development Corp.
Federal Home Loan Bank of Atlanta
Federal Home Loan Bank of Chicago
Federal Home Loan Bank of Dallas
Federal Home Loan Bank of San Francisco
Ford Motor Credit Company
Fulcrum Bank
General Electric Capital Corporation
Government of Singapore Investment Corporation Pte Ltd
Hess Energy Trading Company, LLC
Hydro-Quebec
IBM International Treasury Services Company
Instituto de Gestao de Credito Publico
Int'l Bank for Reconstruction (World Bank)
Intel Corporation
Kingdom of Belgium
Kingdom of Denmark
Kingdom of Sweden
Kreditanstalt Fur Wiederaufbau
Landesbank Saar Girozentrale
Landeskreditbank Baden-Wuerttemberg (L-Bank)
Landwirtschaftliche Rentenbank
Leonia Corporate Bank plc
Manufacturers Life Insurance Company (Manulife)
McDonald's Corporation
Mobil Oil Corporation
Municipality Finance Plc
National Swedish Pension Fund
National Treasury Management Agency of Ireland
Nationwide Insurance
New Zealand Debt Management Office
Nordic Investment Bank
Norges Bank
Ontario Financing Authority
Ontario Hydro
Oresundskonsortiet
Pacific Life Insurance Company
PIMCO Advisors L.P.
Province of British Columbia
Province of Quebec
Red Nacional de los Ferrocarriles Espanoles (RENFE)
S. A. IPPA N.V.
Shidler Investment Corporation
Siemens Aktiengesellschaft
Sigma Finance Corporation
SNS bank Nederland N.V.
Soros Fund Management LLC
South African Reserve Bank
Stichting Pensioenfonds ABP
Student Loan Marketing Association
Swedish National Housing Finance Corp.
Tachyon Partners
Telecom Italia SpA
Telkon SA Limited
Tiger Management Corporation
Tokio Marine and Fire Insurance Co., Ltd.
TOTAL
Tractebel Energy Marketing, Inc.
Tractebel S.A.
Transnet Limited
Treasury Corporation of Victoria
Vitol S.A., Inc.

WMC Resources Ltd.
XL Insurance Ltd.
Yorkshire Building Society
TOTAL SUBSCRIBER MEMBERS: 100
TOTAL ISDA MEMBERS: 367