



Internal Audit Guidelines

Credit Derivatives

May 2009

The Audit Guidelines (the "guidelines") are intended to provide members of the Internal Auditors Division ("IAD"), an affiliate of the Securities Industry and Financial Markets Association ("SIFMA") with information for the purpose of developing or improving their approach towards auditing certain functions or products typically conducted by a registered broker-dealer. These guidelines do not represent a comprehensive list of all work steps or procedures that can be followed during the course of an audit and do not purport to be the official position or approach of any one group or organization, including IAD or any of its divisions or affiliates. Neither IAD, nor any of its divisions or affiliates, assumes any liability for errors or omissions resulting from the execution of any work steps within these guidelines or any other procedures derived from the reader's interpretation of such guidelines. In using these guidelines, member firms should consider the nature and context of their business and related risks to their organization and tailor the work steps accordingly. Internal auditors should always utilize professional judgment in determining appropriate work steps when executing an audit.



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I. Introduction and Background

I. INTRODUCTION AND BACKGROUND

A. Overview

In the simplest form, credit derivatives are bilateral contracts between a buyer and a seller, under which the seller sells protection against the credit risk of the reference entity, transferring the credit exposure of an underlying asset or issuer from one party to another. The value of the derivative is derived from the credit risk of the underlying bond, loan or other financial asset. In this way, the credit risk is of an entity other than the counterparties to the transaction itself.

Traditionally, banks hedged their exposure to credit risk on commercial loans by creating loan loss provisions. Too often, the resulting opportunity cost for the banks was prohibitively high. Banks have also taken advantage of the secondary market for loans by selling their loans. In so doing, they often faced the prospect of receiving severely discounted value if the market perceived the loans as "bad loans." Furthermore, the secondary market for loans was (and remains) very limited. Credit derivatives provide a viable alternative to loan loss provisions and loan sales without imposing opportunity cost or discounting cost.

Credit derivatives can be used for a wide range of purposes including speculation on individual or groups of companies, debt-hedging, and income generation. In addition, they are a very important loan portfolio management tool providing a relatively efficient and flexible mechanism for selling, acquiring or arbitraging credit risk and for managing regulatory capital. The transactions range in size from a few million to several billions of dollars. Investors and end users include the interbank market, insurance companies, hedge funds, mutual funds and securities firms.

The International Swaps and Derivatives Association (ISDA) is a trade organization of participants in the market for over-the-counter derivatives that focuses on management of legal and policy issues. In this role, the ISDA creates industry standards for derivatives and provides legal definitions of terms used in contracts.

An important contribution of the ISDA is its Master Agreement. The ISDA Master Agreement is a bilateral framework agreement. This means it contains general terms and conditions (such as provisions relating to payment netting, tax gross-up, tax representations, basic corporate representations, basic covenants, events of default and termination) but does not, by itself, include details of any specific derivatives transactions the parties may enter into. The Master Agreement is a pre-printed form which will not be amended itself (save for writing in the names of the parties on the front and signature pages). However, it also has a manually produced Schedule, in which the parties are required to select certain options and may modify sections of the Master Agreement, if desired. The Master Agreement would be modified to the extent the modification is mentioned in the Schedule.

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For derivative transactions, a Term Sheet – a bullet-point document outlining the material terms and conditions of the business agreement between the counterparties – is ‘executed’ first. It guides legal counsel in the preparation of a proposed ‘final agreement.’ The Term Sheet is not necessarily binding as the signatories negotiate, usually with legal counsel, the final terms of their agreement. The standardized ISDA Master Agreement is then used by the parties to enter into the final derivatives transaction.

Details of individual derivatives transactions are included in the contract, known as the Confirmation, entered into by the parties of the ISDA Master Agreement. Each Confirmation relates to a specific transaction and sets out the agreed commercial terms of that trade. Confirmations will normally incorporate one or more of the definition booklets published by ISDA. Each of these definition booklets relates to a specific type of derivatives transaction and, in addition to defining terms, they include mechanical provisions (e.g., Articles 5 and 6 of the 2000 ISDA Definitions set out how to calculate the Fixed and Floating Amounts payable under an interest rate swap) which do not then have to be laboriously reproduced in the Confirmation.

The credit derivative contract records all the details of the specific agreement between the counterparties. These elements include the reference entity and bonds acceptable for physical delivery (usually sovereigns, semi-governments, financial institutions and all other investment or sub-investment grade corporates), the notional size, quoted price and term. In addition, credit events (financial difficulties) that will trigger settlement and the form of settlement (cash or physical) are specified.

Credit derivatives fall into two categories: funded and unfunded. When a financial institution or a Special Purpose Vehicle (SPV) enters into a credit derivative and the derivative’s payments are funded using securitization techniques such that a debt obligation is issued by the financial institution or SPV to support the payment obligations, this is known as a funded credit derivative. Funded credit derivatives are often rated by rating agencies, allowing investors to choose different slices of credit risk according to their risk appetite.

A funded credit derivative requires the protection seller to make an initial payment to the buyer of funds to be used to settle any credit event. For this purpose, the ISDA produces a Credit Support Annex (CSA.) This addendum to the Master Agreement permits the parties to mitigate their credit risk by requiring the party which is ‘out-of-the-money’ to post collateral (usually cash, government securities or highly rated bonds) corresponding to the amount which would be payable by that party where all the outstanding transactions under the relevant ISDA Master Agreement terminated. As the protection buyer’s exposure to its counterparty increases, the counterparty posts more offsetting collateral. Collateral other than cash is usually discounted for risk, that is, the pledger would have to post collateral in excess of the potential settlement amount.

An unfunded credit derivative has no payment made at initiation. Each party is responsible to make its own payments under the contract (payments of premiums or any cash or physical settlement amount) with no reliance on funds paid ‘upfront.’

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The occurrence of a credit event triggers the payment from the seller (insurer or guarantor) to the buyer (insured or beneficiary). These usually include one or more of the following:

- Bankruptcy
- Obligation Default
- Obligation Acceleration
- Repudiation/Moratorium
- Restructuring
- Change in Credit Rating.

When triggered by a credit event, payment could involve cash or physical settlement. In the case of cash settlement, the insured receives an amount equivalent to the depreciation in the value of the underlying asset; for example, in a Credit Default Swap (CDS) contract, a 'calculation agent' is appointed. The calculation agent will go into the market and get a selection of quotes for the bond from which a price for settlement will be calculated in the agreed way.

In the case of physical settlement, the buyer receives the full value of the principal in exchange for delivery of the asset to the seller.

Key Unfunded Credit Derivative Products

CREDIT DEFAULT SWAPS

The cornerstone product of the credit derivatives market is the Credit Default Swap (CDS). This product represents over thirty percent of the market. The CDS can be written on a single-name asset or on a basket or portfolio of reference entities. These basket or portfolio CDSs are further divided into two categories: First to Default or Nth to Default. The First to Default CDS is settled after the first credit event (financial difficulty) occurs. As a result, these swaps have a higher risk for the protection seller. With the Nth to Default Swap, the contract specifies the agreed timing of the trigger for the protection seller. Regardless of these distinctions, the principles of the swaps remain the same.

The Single Name Credit Default Swap is the simplest form of CDS. It is a contract where one party (the protection buyer) pays a small periodic premium to the other (the protection seller) in return for protection against a credit event involving any of a range of debt obligations of a known reference entity (third party). If such an event occurs, the transaction will settle. The protection buyer must serve a credit event notice on the protection seller, providing some public information that validates the claim. If the Confirmation (the written contract) is written as a physical settled transaction, the protection buyer delivers the agreed-upon reference obligations to the protection seller in return for their full face value. If the Confirmation is written as a cash settled transaction, a relevant obligation of the reference entity will be valued and the protection seller will pay the protection buyer the full face value of the reference obligation, less its current value.

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The protection buyer in a CDS does not have to own an underlying obligation of the reference entity, nor does it need to suffer a loss for the transaction to settle. Unlike similar insurance products, the protection seller in a CDS has no recourse and no right to sue for recovery.

TOTAL RETURN SWAPS

A credit swap results in a floating payment, paid only following a credit event. In contrast, a Total (Rate of) Return Swap results in payments reflecting changes in the market value of a specified asset in the normal course of business. The Total Return Swap provides protection against the loss of value of the reference entity or asset, irrespective of the cause. It is a mechanism that allows one party to derive the total economic benefit of owning an asset without the use of the balance sheet; the counterparty buys protection against loss in value due to ownership of a credit asset. It can be seen as a balance sheet rental from the Total Return payer to the Total Return receiver. The product can be used in hedging or speculative portfolio management strategies. Like the CDS, the reference asset for a Total Return Swap may be any asset, index or basket of assets.

Fundamentally, the Total Return Swap is a contract where the protection buyer pays the seller periodic interest payments (fixed or floating) attributable to the reference asset (such as debt or index) plus any appreciation in the value of the asset. In return, the buyer receives a contractual return (usually LIBOR plus a spread) on the principal amount from the seller plus any depreciation of the value of the asset. These 'change-in-value' payments can be made at maturity or on a periodic interim basis. In effect, this contract between the two counterparties results in swapping periodic payments for the term of the contract.

CREDIT DERIVATIVES INDICES

Indices are among the most actively traded credit derivatives because they provide a way to buy or sell diversified credit risk quickly and with low dealing costs. Buying protection on the credit derivative index allows typical users—asset managers, hedge funds and relative value traders—to hedge themselves against a general downturn in the credit market. Sometimes, they express a positive view on a particular credit, sector or tranche, but buy protection on the index as an overall hedge.

A credit derivative index (e.g., iTraxx Europe and CDX NA IG) is a basket of single name Credit Default Swaps with standardized terms. The indices act as a global set of benchmarks, allowing investors to buy and sell a cross-section of the credit market much more efficiently than they could if they were buying and selling individual credits. Unlike in most equity and cash bond indices, constituents are not selected on the basis of their market size but by specific rules set out for each index. For example: for the main indices, constituents are chosen by liquidity. They are also (for most indices) equally weighted.

Maturities are standardized, with three, five, seven and 10-year maturities traded for the biggest indices. However, few index trades are held to maturity. A new credit derivative index is launched every six months, usually in March and September, to reflect the names

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in the credit derivative market that fit the rules for each index at that time. On these 'roll' dates, a new basket of credits is created with constituents selected by an independent index administrator based on input from dealers. The current series of the index is known as the 'on-the-run' index. In order to ensure that their positions are as liquid as possible, most counterparties 'roll' into the new version of the index every six months.

All counterparties trade the same list of names for each six month period. They also trade using a fixed spread for the life of the series. If, as is usually the case, the market spread is different from the coupon the counterparties exchange money upfront to account for this difference. When the market price of the index is higher than its theoretical value, it is said to trade with a positive basis to theoretical. When the index price is lower than the average of the single names, the basis is said to be negative. One reason for the existence of a basis is that indices, because of their ease of execution, tend to react more quickly to changes in market sentiment than single names.

Additional Unfunded Credit Derivatives

The following section highlights some additional unfunded credit derivative products that exist, even if they remain small parts of the market. In addition to these products, large numbers of credit derivatives are traded with non-standard terms to meet the demands of particular counterparties.

CREDIT SWAPTIONS

Credit Swaptions, or options on Credit Default Swaps, have been traded on a fairly regular basis since shortly after the creation of the standard credit derivative indices. Credit Swaptions allow traders to take a view on the volatility as well as the direction of credit spreads.

Two types of Credit Swaptions are traded equivalent to the call and put options traded on cash instruments. Receiver swaptions give the option buyer the right to receive premium, that is, to sell protection on a certain date at a certain price (called the 'strike'). Payer swaptions give the option holder the right to pay premium, that is, to buy protection on a certain date at a certain price. The credit swaption market primarily trades in the form of European options. This means the option buyer can exercise their option to enter into a CDS with the option seller only on the maturity date of the option (called the 'option expiry date').

The most liquid swaptions are those with strikes that are at-the-money, that is, where the exercise price is the same as the forward price of the CDS at the expiry date on the day of the trade.

A big difference between Credit Swaptions and options in other markets is that single name Credit Swaptions trade with a 'knock-out' feature. (This feature does not apply to index swaptions.) This simply means that if there is a credit event on the underlying credit, the

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option contract terminates worthless. In other words, the buyer of a payer swaption is not protected against credit events prior to exercise.

CREDIT OPTIONS

Credit Options are put or call options on the price of either: (a) a floating rate note, bond or loan or (b) an 'asset swap' package, which consists of a credit-risky instrument and a corresponding derivative contract that exchanges the cash flows of that instrument for a floating rate cash flow stream. In the case of the Credit Put or Call Option, the option buyer is granted the right (but not the obligation) to sell to or purchase from the option seller a specified floating rate reference asset at a pre-specified strike price. Settlement may be on a cash or physical basis. They may be structured to survive a credit event of the issuer or guarantor of the reference asset or to knock out upon a credit event, in which case only the credit spread risk is transferred.

CREDIT SPREAD OPTIONS

These contracts give the buyer the right to sell the underlying asset at a pre-specified credit spread. The spread refers to the difference between yield on the reference asset and yield on the risk-free security. A Credit Spread Option hedges the risk that the reference obligation credit spread will increase above a predetermined level. Credit Spread Options are typically executed on publicly traded bonds with a strike price above the current market rate. The buyer of a Credit Spread Option has the right (but not the obligation) to sell a reference obligation at a predetermined spread throughout the term of the contract. Thus, buying an option allows the buyer to retain the upside potential. If the option is not exercised, the seller benefits to the extent of the premium received at the initiation of the contract.

RECOVERY SWAPS

Recovery Swaps allow users to express views on recovery rates upon default.

In a Recovery Swap two counterparties agree, in effect, to swap recovery rates following a credit event. In the case of a physically settled Recovery Swap the recovery buyer agrees to buy defaulted bonds from the recovery seller at the 'strike' rate – say, 40%. The recovery buyer is fixing the price at which it buys the defaulted bonds and is therefore long recovery rates, because it will benefit if the actual recovery rate is higher than the strike rate. The recovery seller wants the real recovery rate to be lower than 40% and is therefore short recovery rates.

No premium changes hands during the life of the trade, and Recovery Swaps are quoted in terms of the strike price. A dealer might quote Recovery Swaps in Ford at 55/60. This means it is prepared to sell a Recovery Swap at 60% and buy at 55%.

Recovery Swaps tend to be traded when a company is nearing default and trading tends to be driven by dealers' need to hedge their books. Most recovery trades in this situation take

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the form of the recovery lock, since market participants look to isolate and trade the recovery of a credit without paying any CDS premium.

RECOVERY LOCK TRANSACTIONS

A Recovery Lock is a forward contract that fixes the recovery rate irrespective of what the secondary market price for the bond is. A Recovery Lock is documented as a single trade.

Key Funded Credit Derivative Products

CREDIT LINKED NOTES

Unlike Credit Swaps, Credit-Linked Notes (CLNs) are funded balance sheet assets that offer synthetic credit exposure to a reference entity in a structure designed to resemble a synthetic corporate bond or loan.

CLNs are typically issued by dealers or by special-purpose companies or SPVs. SPVs are set up by dealers/banks to issue numerous different CLNs. However, the notes are documented so that each investor's risk exposure is completely segregated.

Some dealers have a Medium Term Note (MTN) issuance program under which they can issue notes in their name, which are linked to reference entities with which investors want to take risk. A dealer with an MTN program could issue a \$10 million note in its own name, with a desired reference entity being the primary credit risk of the instrument. The investor would pay the dealer \$10 million on trade date to buy the note, whose proceeds the dealer puts into their own deposit. The dealer issues a note which embeds a CDS in which the dealer buys \$10 million of specified protection from the investor. The note coupon would consist of the interest earned from the deposit (typically Libor) plus the spread of the CDS, and would be paid to the investor quarterly.

If there is no default, the CDS and deposit terminate on the maturity of the note and the proceeds from the redemption of the deposit are paid back to the investor. If the reference entity experiences a credit event, the deposit is unwound and its proceeds used to pay the dealer the par amount. The dealer then pays the investor the recovery amount in the case of a cash settled CLN or delivers deliverable obligations in the case of a physically settled CLN.

More often, a bank, or dealer, creates its own guarantor by loaning money to set up and finance a SPV that is domiciled in an offshore location. The bank arranges for its SPV to issue \$10 million of MTNs (in the SPV's own name and carried on its own balance sheet) with the credit risk being a reference entity desired by potential investors.

The investor buys the note from the SPV on trade date and the proceeds are invested in low-risk collateral such as triple A rated bonds. The SPV then sells protection via a \$10 million CDS (on the reference entity) to the dealer. The premium from the CDS, along with the coupons from the collateral, is paid to the investor quarterly.

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If there is no default, the CDS terminates and the collateral redeems on maturity date, and the collateral redemption proceeds are paid back to the investor. If there is a credit event, the collateral is sold and its proceeds used to pay the dealer the par amount. The dealer either pays the investor the recovery amount or delivers deliverable obligations to the investor.

COLLATERALIZED DEBT OBLIGATIONS

Collateralized Debt Obligations (CDOs) are an unregulated type of asset-backed security/structured credit product. They are a form of credit derivatives, offering exposure to a large number of companies in a single instrument.

Although CDOs vary in structure and underlying assets, the basic design is the same. Essentially a corporate entity is created to hold assets as collateral and sell packages of cash flows to investors. The SPV issues different classes of bonds and the proceeds are used to purchase a portfolio of fixed income assets. These assets are divided by the rating agencies that assess their value into different 'slices' or 'tranches', of varying risk or subordination—senior tranches (rated AAA), mezzanine tranches (AA to BB), and equity tranches (unrated). Losses are applied in reverse order of seniority and so junior tranches offer higher coupons (interest rates) to compensate for the added default risk. The issuer of the CDO (typically an investment bank) earns a commission at time of issue and earns management fees during the life of the CDO. The CDO investor does not take a position in the underlying assets, but rather in the cash flows of the assets. Return on this investment is dependent on the quality of the metrics and assumptions used for defining the risk and reward of the tranches.

There are two categories of CDOs, differentiated by sources of funds: cash flow and market value. In a cash flow CDO, the asset manager focuses primarily on managing the credit quality of the underlying portfolio. In contrast, the asset manager of a market value CDO attempts to enhance investor returns through the more frequent trading and sale of collateral assets.

There are also two primary motivations for issuance of CDOs: arbitrage versus balance sheet transactions.

Arbitrage Transactions (cash flow and market value) attempt to capture for equity investors the spread between the relatively high yielding assets and the lower yielding liabilities represented by the rated bonds. The majority of CDOs are arbitrage-motivated.

Balance Sheet Transactions by contrast, are primarily motivated by the issuing institutions' desire to remove loans and other assets from their balance sheets, to reduce their regulatory capital requirements and improve their return on risk capital. A bank may wish to offload the credit risk in order to reduce its balance sheet's credit risk.

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SYNTHETIC CDOs

Alternatively, a Synthetic CDO does not own cash assets such as bonds or loans. Instead, the exposure to each underlying company is a CDS. Synthetic CDOs are typically divided into credit tranches based on the level of credit risk assumed. Each tranche receives a periodic payment (the swap premium) with the junior tranches offering higher premiums.

To create a Synthetic CDO, an SPV issues CLNs to investors. The proceeds of the sale are invested in AAA rated securities to secure the repayment of principal to the investors. The SPV then writes Credit Default Swaps with the originating bank on whose books the loans remain. The bank then periodically pays the CDS premium to the SPV. Should the originating bank experience a relevant credit event, the bank would seek a payment from the SPV, in which case the investors in the Synthetic CDO would suffer losses.

CDO investors are effectively selling credit protection (for their particular tranche) to the CDO issuer. If a credit event occurs in the fixed income portfolio, the Synthetic CDO and its investors become responsible for the losses, starting from the lowest rated tranches and working its way up. Investors can be accountable for much more than their initial investments if several credit events occur in the reference portfolio.

A Synthetic CDO may be either funded or unfunded. In a funded Synthetic CDO, a portion of the CDOs credit exposure is funded at the time of investment by the investors in the junior tranches. These face the greatest risk of having to fund at closing. Until a credit event occurs, the proceeds provided by the funded tranches are invested in high-quality, liquid assets. The return from these investments plus the premium from the swap provides the cash flow paid to investors in the funded tranches. When a credit event occurs, the required payment is made from the liquid investments.

Unlike a funded CDO, investors in a senior tranche, where the risk of loss is much lower, receive periodic payments but do not place any capital in the CDO when entering into the investment. Instead, the investors retain continuing funding exposure and may have to make a payment to the CDO in the event the portfolio's losses reach the senior tranche.

HYBRID CDOs

Hybrid CDOs are an intermediate instrument between Cash CDOs and Synthetic CDOs. The portfolio of a Hybrid CDO includes both cash assets as well as swaps that give the CDO credit exposure to additional assets. A portion of the proceeds from the funded tranches is invested in cash assets and the remainder is held in reserve to cover payments that may be required under the Credit Default Swaps. The CDO receives payments from three sources: the return from the cash assets, the reserve account investments, and the CDS premiums.

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SINGLE-TRANCHE CDOs

The flexibility of Credit Default Swaps is used to construct Single Tranche CDOs where the entire CDO is structured specifically for a single or small group of investors and the remaining tranches are never sold but held by the dealer based on valuations from internal models.

INDEX TRANCHEs

These products are standardized single tranche CDOs with a credit index (usually iTraxx Europe or CDX NA IG) as their reference portfolio.

CDO²

Other, more complicated CDOs have been developed where each underlying credit risk is itself a CDO tranche. These CDOs are commonly known as CDOs-squared.

Credit Derivative Markets

The credit markets are financial markets where participants conduct business through trading, structuring and investing in the credit risk of large companies, emerging market countries and structured finance bonds, either through cash instruments (bonds and loans) or through credit derivatives.

In its early stages, growth of the credit derivatives market was hampered by legal uncertainties. This uncertainty originally arose because credit derivatives are triggered by a defined event rather than a defined price or rate move. Agreement on the definition of terms in a watertight legal document became critical. The ISDA Master Agreement (for over-the-counter derivatives) addressed this need. The standardized confirmation allows the parties to each transaction to specify its precise terms using a number of defined alternatives. As a source of recommended industry practices and legal opinions, the ISDA continues to create accepted industry standards for derivatives, including the provision of legal definitions of terms used in contracts and recognized industry-wide choices when standardization is not appropriate.

In April of 2007, the ISDA reported that the total notional (face) amount on outstanding credit derivatives was \$35.1 trillion with a gross market value of \$948 billion. More currently, according to reports in September 2008, the worldwide credit derivatives market was valued at \$62 trillion. Many experts now consider the growing derivative product line, the complex Wall Street structures that used them, and the ubiquitous market appetite clear contributors to the current economic crisis. Not all the mortgage lending excesses can be tied to derivatives, but the ability to craft loans which banks had no intention of keeping on their own balance sheets due to the availability of the credit derivatives market is a notable factor.

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In 2008, the market began to unravel with the demise of Lehman Brothers. Subsequently, when the federal government took control of mortgage giants Fannie Mae and Freddie Mac the takeover was deemed a credit event, triggering the credit-default swaps that other companies held as insurance against such an event. As this downturn continued into 2009, unprecedented interventions and nationalizations have followed. So-called 'toxic' assets became worthless and the overall effect on the CDO market led to an explosion in spreads and to the resulting credit crunch. For the first time, the overall CDS market shrank after doubling every year since 2001.

In 2009, the SEC has granted temporary approval to at least three derivative clearing houses. The use of these clearing solutions is intended to improve the transparency of the CDS market and to reduce the systemic risk associated with this product. See www.sec.gov/rules/exorders/2009/34-59578.pdf for additional information.

The limited duration of the exemptions will permit the Commission to gain more direct experience with the non-excluded CDS market, giving the Commission the ability to oversee the development of the centrally cleared non-excluded CDS market as it evolves.

B. Audit Objectives

The three main objectives of an audit of credit derivatives are:

- To determine the adequacy and effectiveness of controls relating to credit derivative transactions;
- To ascertain that all such transactions are properly recorded in accordance with their terms; and
- To ensure that the company's financial statements and regulatory reports properly reflect, in accordance with generally accepted accounting principles, the results of credit derivative activity.

C. Audit Scope

The scope of the audit will include the following activities:

- Product and transaction documentation/walkthrough
- Goal-setting, sales and trading practices
- Trade monitoring, documented policies and procedures, and reconciliation
- Valuations
- Risk Limits
- Oversight responsibilities, records and audit trails

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D. Audit Risks

Failure to manage inherent product and process risks can result in significant reputational and financial losses to a Firm. In addition, failure to comply with regulations and applicable accounting procedures can cause a Firm to be fined or to suffer penalties.

Major risks are summarized as follows:

Sales/Trading

- Failure to establish responsibilities, clear reporting lines and provide required communications to upper management may result in supervisory omissions with regulatory, legal and financial consequences for the Firm.
- Failure by the Desk to define its products and strategies and to establish appropriate processes to ensure that all trades and trading parameters are captured within the trading systems may result in (1) inaccurate financial reporting and (2) failure to oversee trading and exceptions, generating significant financial losses for the Firm.
- Use of untested and/or complex computer models, designed by the traders, in the pricing of derivative transactions can result in significant financial loss.

Credit/Market Risk

- Failure to establish and manage credit risk limits appropriately or to establish position limits for defined products may result in significant financial and reputational losses for the Firm.
- Failure to properly vet each counterparty can result in a financial loss from uncollectible accrued receivables due to inability of counterparty to meet its obligations.
- Failure to properly calculate the probability that, and the extent to which, market rates will move away from contracted transaction rates in a direction which would cause a loss to the non defaulting party may result in significant financial loss.

Finance/Product Control

- Inability to access accurate current prices or use of inconsistent pricing assumptions when determining default rates, credit correlation, recovery rates and volatility results in inaccurate valuation (and mark-to-market) of single name Credit Default Swaps, indices and index tranches that may lead to a variety of significant losses, including financial, reputational, and regulatory. Specifically:
 - Aged trades or highly tailored contracts do not have multiple dealer prices available; this results in theoretical, rather than actual, over-the-counter derivative market valuations.

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- Asymmetric valuation of reference assets, measurement of risk exposure between the insurer and the insured, may result in settlement delays, and legal disputes.

Operations

- Failure to establish procedures addressing inherent settlement risk of these products and situations that amplify the risk of financial losses. Risk is heightened in the following circumstances:
 - Where cash flows are not paid net;
 - Where payment dates do not coincide, i.e., quarterly versus semi-annual re-pricings;
 - During Roll dates (occurring four times a year);
 - During management of collateral.
- Inaccurate maintenance of the large amount of static data, both external (e.g., customer details, security details, and standing settlement instructions (SSIs)) and internal (e.g., credit ratings and counterparty codes) required for trading in derivatives may result in significant financial losses due to improper payments, improper authorization of transactions and inaccurate or inconsistent valuations.

Legal/Compliance

- Inappropriate or unlawful trading may occur, resulting in serious legal and financial consequences for the Firm unless trading activity is appropriately monitored so as to ensure that any such instances are identified.
- Over time, transactions may become unprofitable or illegal and require ongoing monitoring to avoid significant financial losses or inappropriate trade practices.
 - The regulatory bodies may reformulate comprehensive guidelines and those rules that are in use may change;
 - Transactions may become unenforceable in the event of a dispute with the counterparty due to incorrect or inadequate documentation;
 - Interpretation of Confirmation specifics—including the determination of a trigger event and the consequences that result—may result in debate;
 - Changes or unfavorable interpretations may occur in applicable accounting and tax rules;
 - Key areas of accounting concern include mark-to-market versus deferral methods, gross versus net disclosure of receivables and payables, recognition of fee income, etc.

Technology

- Insufficient and/or unreliable systems fail to produce accurate and timely information resulting in significant financial losses for the Firm:
- Inappropriate systems access may result in fraud.



II. Audit Guidelines

II. AUDIT GUIDELINES

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
A. Sales/Trading		
Business Strategy Business objectives are not established/communicated to front office personnel, resulting in trading activity that may not be in accordance with management business strategy.	Senior management has approved the strategy/business plan that outlines the primary objectives and risk parameters for the Desk. In addition, there are clear budgets and head count forecasts for the Desk.	<ul style="list-style-type: none"> Obtain and review the latest strategy/business plan and confirm that it has been approved by senior management: <ul style="list-style-type: none"> Assess the realism of the strategy; Assess whether the targets increase risks. Select a sample of days and verify that daily trading activity was consistent with the approved business strategy.
Business Continuity Planning (BCP) Without business continuity and disaster recovery (DR) plans, the business may not be able to resume operations within the timescale dictated by the relevant business needs.	A business continuity and disaster recovery plan is developed. Systems criticality is assessed to ascertain the maximum time period for recovery. Applications and data are backed up and retained at an offsite location.	<ul style="list-style-type: none"> Obtain and review the business' BCP and DR plan. Confirm that an assessment has been made of the impact of losing the system for different disaster scenarios. Verify that the location of the DR site is separated from the main site. Determine the level of manual 'work arounds' for recovery planning.
Segregation of the Approving and Support Functions Front Office staff members have inappropriate access to Trading books or Back Office systems, causing conflicts of interest.	Approval and key support functions (such as settlement and confirmations) are not carried out by functions independent of the Front Office staff.	<ul style="list-style-type: none"> Test user access rights of the Trading systems being used to ensure that support functions do not have write access and that these are up to date. Review the performance of quarterly access reviews; ensure there is an appropriate level of approval.

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Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>Client Valuations</p> <p>Client valuations provided are not in accordance with inventory valuations, indicating possible fraud</p> <p>Publicity about client trades viewed by others as inappropriate leads to franchise losses.</p>	<p>Client valuations should be provided independently of the Front Office. They may be based upon Front Office valuations.</p>	<ul style="list-style-type: none"> • Review the number of client valuations provided to the Desk's clients, and confirm that: <ul style="list-style-type: none"> – Valuations are provided in accordance with the clients terms; – They are provided independent of the Front Office; – A comparison is made between the client valuation to be provided and the Firm inventory records; and – Escalation procedures exist to be used when a valuation is not in line with inventory values.
<p>Sales/Trading Interaction</p> <p>For the most active Trading Desks, deals are initiated in all of the following areas: Salespersons, Brokers, Other Dealers and Dealers. As a result of handoffs and transfers, staff can undertake inappropriate trading activities.</p>	<p>Deals are recorded and authorized by the Dealer.</p> <p>Sales and Trading personnel are aware of account restrictions before accepting orders.</p> <p>Trades are identified for suitability review.</p>	<ul style="list-style-type: none"> • Review the current organizational chart. • Document how trades are captured within the Front Office, specifically for trades not initiated by the Dealers: <ul style="list-style-type: none"> – Review how deals are transferred to the Dealers; – Review whether there are any transfer pricing agreements in place for the business lead; – Review how frequently small deals are transferred; and – Review who determines the internal transfer price.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>Trading Supervision</p> <p>Credit Derivatives personnel are not properly supervised, which may result in untimely discovery of improprieties such as trading unapproved products, exceeding position limits, engaging in improper business activities and violating regulatory requirements.</p>	<p>The Desk Head monitors Credit Derivatives Desk activities.</p> <p>Monthly attestations are provided to Compliance indicating that a representative from the Desk has performed supervisory responsibilities as outlined in the Firm's Compliance Manual.</p>	<ul style="list-style-type: none"> • Identify the supervisory framework and the requirements of supervisors. • Document the supervisory structure for the Desk. Obtain a copy of all management information sent to supervisors/ business management and notification reports such as risk limit breaches and unsigned P/Ls at or around the month of the test date. • Evaluate the adequacy of the credit derivatives supervisory procedures and management reports used to authorize, monitor, and/or document trade input, hedging and trading strategies, inventory, desk limits, and employee trading. • Select a sample of days and verify that daily trading activity was reviewed for unauthorized activity. Ascertain whether any negative trends or concentration exist that require further investigation. • Obtain a copy of the monthly Compliance attestation to determine whether certification was signed and submitted timely.

SIFMA Internal Audit Guidelines for Credit Derivatives

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<p>Trade Capture</p> <p>Appropriate processes are not established to ensure that all trades and trading parameters are captured.</p>	<p>Access to the dealing function is restricted to authorized personnel only.</p> <p>Late trades are input on the day the trade is executed.</p> <p>For trades amended and cancelled, an audit trail is in place and business management is aware of unusual volumes and respective causes.</p> <p>All traders' telephone lines are recorded and tapes are kept for the minimum period of the longest dated trade type.</p>	<ul style="list-style-type: none"> • Document the trade capture process for all key trade types. Ensure this identifies all the processes required to book value and risk manage Front Office positions. • Ensure that late trades are input on the day the trade is executed. • Identify instances where the Middle Office books trades on behalf of the Front Office and ensure there is an appropriate level of approval by the Front Office. • Obtain details of all trader telephone lines taped and verify that tapes are kept for the minimum period of the longest dated trade type.
<p>Book Structure</p> <p>Trading books are not adequately or independently established, resulting in inconsistent Trading book hierarchy structures and inaccurate P/L or risk management reporting.</p>	<p>New books are set up by Controllers at the request of the Trading Desk.</p> <p>A standard form is completed and authorized by Controllers and the trader.</p>	<ul style="list-style-type: none"> • Obtain and review new book opening procedures for completeness. Based on discussions with Controllers, Technology and Market Risk Management regarding Trading book hierarchies, document controls used to monitor the book opening and closing procedures. • Based on a sample of recently opened books, ensure that books were open in accordance with procedures. • Ensure periodic reconciliation between Controllers and Risk Management to ensure that the business hierarchies used by the business are consistent with Risk's hierarchy.

SIFMA Internal Audit Guidelines for Credit Derivatives

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<p>Desk Infrastructure</p> <p>Infrastructure is not sufficient to manage the business, resulting in instances of trades being maintained off-line (spreadsheets).</p>	<p>Desk infrastructure is appropriate to handle and accurately book all trades.</p> <p>Processing errors are reported, identifying the party responsible.</p>	<ul style="list-style-type: none"> • Review any spreadsheet or off-line transaction records to determine frequency of occurrence. • Evaluate the adequacy of the Trading Desk supervisory procedures and management reports used to authorize, monitor, and/or document trade input.
<p>Out-of-Hours/Off-premises Trading</p> <p>Trades are executed out-of-hours and or off-premises, resulting in unrecorded/unreported trades.</p>	<p>There is a clear policy for off-site and off-hours trading in the Compliance Manual.</p> <p>Traders can trade out-of-office with appropriate authority from Compliance.</p> <p>Instances of trades being maintained off-line (spreadsheet) are minimized and monitored by Compliance.</p> <p>Any off-premises or out-of-hours activity is carried out on a secured connection and recorded telephone line (if one is required).</p>	<ul style="list-style-type: none"> • Discuss with traders and determine adequacy and effectiveness of policy. • Check system for evidence of out-of-hours and off-premises trades, if these are permitted, to ensure that they comply with the policy and have been reported to appropriate personnel for monitoring.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>New Product/ Business Approval Process</p> <p>New products are introduced and/or traded by the business without effective review and approval. This may cause significant risk and loss to the Firm in the event that such instruments are traded without the required legal, financial and risk infrastructures being in place.</p> <p>Trades are made with Special Purpose Entities not consolidated as required by FIN 46, resulting in regulatory consequences and financial penalties.</p>	<p>The Firm has an approved New Product Approval Policy which specifies the procedures to be followed before trading in new products.</p> <p>The Firm has an approved list of authorized entities with which trades may be made.</p> <p>The Firm has a process in place to approve and control SPVs, if used.</p>	<ul style="list-style-type: none"> • Obtain and review the New Product Approval Policy for completeness. Inquire into the procedure, and test effectiveness. • Obtain New Product Committee information and ensure that all new products and structures have been reviewed and approved by the New Product Committee. • For a sample of new products, ensure the procedures have been followed and that the business is transacting within their approved parameters. • For a sample of trades, ensure the trades have been made with approved entities and SPVs only. • Review individual cases of trades with unauthorized entities to test for sufficient review by management.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>Pricing/Valuation</p> <p>Specialist Trading areas have not developed appropriate models for the pricing of derivative trades.</p> <p>The models which have been developed can be overridden by the Trading Desk.</p> <p>Models used for pricing and valuation have not been independently signed-off.</p>	<p>The models are developed by someone independent of the Desk.</p> <p>The use of scripts by the Desk is restricted and approved (scripts are Excel-based modeling tools which are developed by the Trading Desk).</p> <p>All models and scripts have an appropriate level of approval.</p> <p>Key valuation inputs are identified within the model.</p> <p>Valuation inputs updated manually by the Front Office are updated regularly and subject to validation.</p>	<ul style="list-style-type: none"> • Review the daily marking of the Front Office books: <ul style="list-style-type: none"> – Ensure this occurs daily in accordance with Front Office policy. • Obtain information describing the model testing. • Obtain sign-off information on all models being used by the area and assess with Market Risk how these models are validated. • Obtain copies of the Excel models and assess in terms of controls which are or are not in place. • Observe traders are using approved pricing models to value credit derivatives.
<p>Models</p> <p>Models are not properly segregated from Front Office personnel, resulting in control deficiencies that could expose the Firm to realized losses in excess of calculated exposures.</p>	<p>All notable and key adjustments authorized by Front Office are reviewed by Product Control Auditor.</p> <p>Model Testing carried out in Product Control includes Independent Price Verification.</p>	<ul style="list-style-type: none"> • Assess all third party pricing used for valuation purposes: <ul style="list-style-type: none"> – Ensure that the Desk does not contribute to the pricing being used. • Ensure that all parameters used within the Front Office marking of trades is price tested by the Product Control team.
<p>Off-Market Pricing</p> <p>Trades are executed at off-market prices to inflate P/L.</p>	<p>Trades are executed at off-market prices for approved trading reasons e.g., where the market is very illiquid.</p>	<ul style="list-style-type: none"> • Discuss with the Desk any instances of off-market pricing. Ensure that this has been approved.

SIFMA Internal Audit Guidelines for Credit Derivatives

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P/L (Mark-to-market) Profit/Losses are not accounted for or disclosed, resulting in exceeding risk limits and inaccurate reporting.	Trades are marked daily and on a timely basis.	<ul style="list-style-type: none"> • Document the mark-to-market process for the Desk: <ul style="list-style-type: none"> – Document all the product types traded and their corresponding valuation/ accounting treatment. • Obtain all information surrounding adjustments and investigate into the reasons why these exist. • Investigate the number of illiquid positions and ensure they are marked on a regular basis: <ul style="list-style-type: none"> – Where positions haven't been marked for a number of days, ensure these are escalated.
Cancels/'As of' Trades Inadequate controls regarding changes in trade details may result in unauthorized amendments and inaccurate books and records.	For trades amended and cancelled, ensure that there is an audit trail in place. Adjustments, cancel-corrects, 'as of' trades are reviewed by management during a supervisory review system. All Back Office changes to deal details first authorized by dealers.	<ul style="list-style-type: none"> • Select a sample of cancel and 'as of' trades and ensure sufficient review by management: <ul style="list-style-type: none"> – If the occurrence of these is rare, perform a walkthrough of the process. • Verify that a mechanism is in place to ensure complete population of changes to product databases (i.e., many changes to access products database) is included in deal fact change control activities.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>Event Monitoring</p> <p>Failure to monitor events (e.g., ITM, barriers) may lead to failure to settle or missing windows of opportunity.</p>	<p>Tracking mechanism in place for all events.</p> <p>Options are monitored to ensure that all ITM are exercised timely.</p> <p>All trade details (including multiple underliers and trade related events e.g., barrier options) input into the trader risk system are verified to supporting documents (e.g., term sheets, trade tickets).</p>	<ul style="list-style-type: none"> • Discuss event monitoring procedures in relation to option expiries with Front Office and Operations. • Document and evaluate how traders monitor event triggers and option exercises/expiration. • Ensure all triggers are captured. • Select a sample of transactions and test whether event triggers were acted upon in a timely manner and in accordance with procedures. • Observe that a mechanism is in place to ensure complete population of accounts is included in trader risk system to documentation reconciliation.
<p>Trade Input Edit Controls</p> <p>Trade input errors booked in electronic systems may result in financial loss (exchange traded derivatives only).</p>	<p>Limits are in place in electronic Trading systems (e.g., exchange traded futures) to prevent input errors by traders.</p>	<ul style="list-style-type: none"> • Review the limits in place in electronic trade input systems to prevent input errors.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
B. Credit/Market Risk Management		
<p>Limit Establish/Monitor</p> <p>Risk & Credit limits have not been established, reviewed, approved, monitored and/or resolved in a timely fashion resulting in excessive or unacceptable exposure for the Firm.</p> <p>No initial due diligence analysis is performed, (including: vetting each counterparty) resulting in the Firm not knowing to whom it is exposed.</p> <p>Credit derivative transactions are completed without a means of evaluating market/credit risk against the Firm's acceptable risk appetite/tolerance levels.</p> <p>Incomplete or inaccurate aggregation of market risk exposures resulting in the undertaking of an unacceptably high risk of loss.</p>	<p>Risk Management independently monitors adherence to market risk limits.</p> <p>Corporate Credit performs the initial due diligence/annual reviews of credit derivatives counterparties and establishes credit and forward settlement risk limits accordingly.</p> <p>Limits for business unit, business area and desk levels are documented for all market risk components.</p> <p>Traders, Trading management and risk managers are formally made aware of the limits.</p> <p>Corporate Credit independently monitors daily credit exposures, limit-usage and excesses. Reports are sent to all levels of Trading management.</p> <p>Corporate Credit tracks credit limit violations daily to Desk management and division heads. Repeat violations by the same employee or counterparty are escalated to the Risk & Credit Committee.</p>	<ul style="list-style-type: none"> • Ensure risk limits agree with the most current limits approved by the Firm's Resource Management Committee. • Based on a sample of daily reports, gain reasonable assurance that the Desk operates within its approved risk limits and that Risk Management is monitoring exposures and reporting violations to management timely. • Review a sample of credit derivatives counterparties documentation to verify that Corporate Credit performs periodic counterparty reviews and that risk limits have been set consistently (i.e., based upon credit quality). • Document the limit monitoring process: <ul style="list-style-type: none"> – Review a sample of credit limit reports for the Credit Derivatives Desk to gain reasonable assurance that credit risk limit violations are being monitored and resolved timely; and – Document that repeat violations are escalated accordingly. – Ensure that all traders have access to intraday credit risk and tenor limits and that trades executed are linked to limits set to avoid breaches; and – Ensure that credit risk limits can not be netted over multiple desks. • Verify that all trades are aggregated and reported to downstream risk management systems. • Where limits have been violated, review sample to determine who approved and what was done as a result.

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<p>Netting</p> <p>Netting procedures and the supporting documents have not been established for the Trading Desks, resulting in increased settlement risks.</p>	<p>Multi-form Master Agreements are used where possible, and these include FX forwards and options.</p>	<ul style="list-style-type: none"> For a sample of netted clients, ensure that the relevant agreements are signed and approved. Document the use of Master Agreements within the Desk: <ul style="list-style-type: none"> Determine what form of netting is provided by the Master Agreement: netting of payments, netting on close-out, full two-way payment or limited two-way payment; Determine whether the net current and future exposure is computed in accordance with the Master Agreement.
<p>Aggregation of Credit Risk</p> <p>Credit risk is not aggregated, amplifying credit risk exposure for the Firm.</p>	<p>Potential credit risk exposure is aggregated by portfolio simulation or aggregation of transactional worst case exposure.</p>	<ul style="list-style-type: none"> Determine whether the aggregation methodology is consistent for trader and management levels: <ul style="list-style-type: none"> Investigate netting applied in the aggregation of current and potential exposures. Document how often current and potential risk exposure is re-aggregated. Investigate whether offsetting factors are taken into account in the computation of expected exposures. Factors should include: transactions linked to the same bases, mismatches in peak exposures and correlation between exchange rates, interest rates or underlying prices.
<p>Credit Enhancements</p> <p>Credit enhancements used for less credit- worthy counterparties are not tracked/monitored exposing the Firm to unacceptable levels of risk.</p>	<p>A process exists to track/monitor credit enhancements.</p>	<ul style="list-style-type: none"> Document the use of credit enhancements within the Desk: <ul style="list-style-type: none"> Determine the frequency of monitoring of credit enhancements; Determine how frequently collateral is revalued.

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<p>Market Risk Limit Monitoring</p> <p>There is no appropriate risk structure to be monitored by the Market Risk department, resulting in unacceptable exposure of the Firm to financial loss.</p>	<p>The Market Risk Limit Monitoring process includes obtaining positions and sensitivities, consolidating the overall risk per book, reporting the level of exposure and performing adjustments to positions as appropriate.</p>	<ul style="list-style-type: none"> • Document the Limit Monitoring process: <ul style="list-style-type: none"> – Obtain positions and sensitivities; – Consolidate the overall risk per book; – Report the level of exposure; and – Perform adjustments to positions as appropriate. • Test the level of breaches within the market risk limits for the past two months: <ul style="list-style-type: none"> – Review that there has been an appropriate level of approval.
<p>Liquidity Risk</p> <p>Liquidity risk has not been identified as part of the limit monitoring structure, exposing the Firm to possible losses.</p>	<p>The costs of investing/funding cash flows from the derivatives portfolio are forecast to assure adequate reserves.</p>	<ul style="list-style-type: none"> • Document the liquidity risk for the Trading Desk.

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<p>Risk Computation</p> <p>Risk components (inherent in products traded by the Desk) are not identified for inclusion in the Firm's risk computation methodology, thereby skewing risk exposure calculations.</p>	<p>The approved Firm's risk computation methodology is applied to calculate and monitor market risk limits for the Desk.</p>	<ul style="list-style-type: none"> • Review the Risk Management Policies & Procedures to determine whether the Firm's risk computation methodology includes the inherent risks of products traded by the Desk. • Review any second order risk parameters that are not reported. Recommend revision to risk computation methodology as necessary. • Verify that the approved methodology is used to calculate and monitor risk exposures for inclusion in the Firm's Risk System and the daily risk reports to both Trading and senior management.
<p>Integrity of Credit & Risk Data</p> <p>Business data is not recorded, recorded inaccurately or lost during the transference of information between the Front Office applications and downstream Credit and Risk systems, resulting in misstated market and credit risk computations.</p>	<p>Credit and Risk Management perform daily reconciliations of business data to ensure all positions are captured accurately in their respective risk systems.</p> <p>Mechanism is in place to ensure complete population positions are included in the risk system reconciliation.</p> <p>Audit trail is maintained in the risk aggregation systems of all sign-offs and adjustments to facilitate review and approval.</p>	<ul style="list-style-type: none"> • Document procedures for ensuring the accuracy, timeliness, and completeness of all Credit and Risk Management data feeds and off-line reports. • Based on a sample of five non-consecutive days, ensure that: <ul style="list-style-type: none"> – Data feeds are complete, timely and accurate; – Reconciliations are performed daily and that discrepancies are investigated and resolved timely; and – Reconciliation data agrees with source documentation. • Obtain all off-line reports provided to Credit and Risk and review reports for accuracy, completeness and frequency.

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<p>Capital Adequacy: Stress Testing</p> <p>The effect of stressed market risk factors on credit derivative portfolios is neither calculated nor measured against a predetermined benchmark. As a result, losses may be much higher than anticipated under extraordinary circumstances and/or not escalated to senior management.</p>	<p>Market risk exposures are subject to daily stress testing to evaluate and report potential economic impacts to Firm management.</p> <p>Credit risk stress test assesses the effect of certain specific conditions on regulatory capital requirements.</p>	<ul style="list-style-type: none"> • Discuss with Risk Management the stress testing process to gain an understanding of the scenario analysis performed and to assess adequacy of variables stressed. • Ensure that portfolios are being subject to periodic stress testing (daily) by reviewing stress testing reports for two non-consecutive weeks.
<p>Model Review</p> <p>Models are not approved by Risk Management; do not accurately quantify or simulate market conditions or inherent risks of the credit derivatives business resulting in unacceptable exposure to significant financial losses for the Firm.</p>	<p>All models and underlying assumptions are vetted, approved, and documented by Risk Management prior to production.</p> <p>Manual adjustments to positions, marks, greeks or model settings in risk aggregation systems are documented, reviewed and approved on T or T+1.</p> <p>Controllers compares the model inputs for theoretically priced positions used by the traders to independent external sources.</p>	<ul style="list-style-type: none"> • Review the analysis performed by Risk Management to ensure that the models used by the Desk have been independently validated and cannot be altered by the traders. • Determine that a mechanism is in place to ensure complete population of positions and trading accounts is included in the mark review. • Ensure that the mark review is reconciled to General Ledger (GL) inventory balance.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
C. Finance/Product Control		
<p>Completeness</p> <p>Trading P/L is not produced for all Trading books, resulting in possible exceeding of limits and exposure to unanticipated losses for the Firm.</p> <p>Independent price verification breaches occur resulting in improper reserve calculations and adjustments.</p> <p>There is no process to add and remove books and portfolios to the system which compiles the P/L, resulting in inaccurate books and records.</p>	<p>Trading P/L is maintained for all relevant positions; also includes late deals, new portfolios/books.</p> <p>The daily P/L is distributed to traders on T+1 for sign-off at a reasonable time. Typically traders should sign off no later than close of business on T+1.</p> <p>A P/L attribution (P/L compared to risk taken) analysis is performed for complex products.</p>	<ul style="list-style-type: none"> • Document the process for ensuring that P/L is produced for all Trading books. • Ensure that the P/L figures are consistent with any management reports that are compiled using daily P/Ls which are distributed. • Obtain a copy of the end-of-day P/L which was compiled for five days surrounding the audit test date along with all the reserves and adjustments and how they were calculated: <ul style="list-style-type: none"> – Document any disputes should the traders not sign off; – Explain for the testing period stated. • Obtain the attribution analysis carried out for the testing period stated surrounding complex products. • Obtain the number of books or portfolios for each Desk.

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<p>Position Reconciliations</p> <p>Dealer estimations are held on blotters, dealing sheets, sub systems, PCs or front end dealing systems. These records of dealer profits are kept separate from the accounting systems and are not sent to Product Control, leading to overstatement or misstatement of financial information.</p> <p>The P/L generated by Trading is not validated to the P/L generated from the Trading system resulting in processing/sub-ledger breaks and related limit excesses.</p> <p>Reconciliation breaks are not resolved on a timely basis, and/or appropriately documented, resulting in inaccurate reporting.</p>	<p>Finance is responsible for performing reconciliations between Front Office and Back Office records.</p> <p>All new transactions and closing positions entered into the accounting records are signed off daily by dealers.</p> <p>A three-way reconciliation is performed between trade booking, confirmation and term sheet.</p> <p>Traders are made aware of all risk system to processing/sub ledger reconciliation breaks (e.g., corporate actions not booked in risk systems).</p>	<ul style="list-style-type: none"> • Document the reconciliation process between Front and Back Offices. • Obtain copies of the reconciliations for five days surrounding the audit test date: <ul style="list-style-type: none"> – Assess the breaks to identify whether they are legitimate breaks, technical, or agings; – Evaluate the investigation methodology surrounding the resolution of the breaks. • Ensure all adjusted breaks have been understood and corrected. • Ensure there is appropriate documentation of the month-end reconciling items. • Ensure appropriate aging and escalations of reconciliations are performed. • Obtain a sample of the Position Reconciliation report and verify its use via random trader interview.

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<p>Trading Profit Reconciliation</p> <p>P/L reconciliations are not prepared and investigated by a team independent from the Front Office resulting in possible fraud.</p>	<p>Profit estimates are signed off by dealers every day.</p> <p>The individuals investigating and escalating differences are not able to resolve exceptions.</p>	<ul style="list-style-type: none"> • Ensure there is appropriate documentation of the month-end reconciling items. • Test a sample of trading profit and loss reconciliations, ensuring breaks are adequately documented and resolved on a timely basis. • Ensure reconciliations are appropriately aged.

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<p>P/L Reporting</p> <p>Production of daily P/L and pricing is not performed independently of the Front Office. Failure could lead to inaccurately computed P/L that could mask potential or realized losses from being highlighted in a timely manner.</p>	<p>P/L is explained on a daily basis, with the reasons for moves being broken down to their individual factors.</p> <p>Daily, senior management is provided with P/L reports via the intranet MIS reporting system.</p>	<ul style="list-style-type: none"> • Based on an agreed-upon global sample, review and document the daily and month-end P/L processes to gain reasonable assurance that P/Ls are accurately and timely reported. • Ensure that daily P/L, P/L explain, month-end actual vs. estimated P/L reconciliations and position reports (including over mark-to-market of outstanding positions) are accurate and are produced independently of Trading: <ul style="list-style-type: none"> – Verify that counterparties sign-off on intercompany transactions prior to recognition of P/L; – If pricing discrepancies were noted, ensure that material discrepancies were reported, investigated and resolved timely; and – Verify that these reports received the necessary sign-offs by the front office.
<p>Reserves</p> <p>There are no reserves in place, reserves are incorrectly calculated, or are not independently reviewed, resulting in an inaccurate P/L or significant financial consequences to the Firm.</p>	<p>Reserves are transparent and calculated correctly and consistently across the Firm.</p>	<ul style="list-style-type: none"> • Obtain and review current Reserve Policy: <ul style="list-style-type: none"> – Verify that the Reserve Policy sufficiently supports the business. • Based on a sample of reserves taken, gain reasonable assurance that the Product Control Group independently reviews reserves monthly: <ul style="list-style-type: none"> – Ensure that reserves are calculated in accordance with Product Control's Reserve Policy. • Ensure that if valuation prices/parameters do not reflect fair value, a complete correction is made using reserve policies for pricing approximations in the valuation process (model and new product adjustment) and for future possible losses out of position-taking (counterparty default adjustment).

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<p>Use and Control of Journals</p> <p>Manual recording is not reviewed, allowing possible miscalculation, fraud or improper trading.</p>	<p>Manual journals in the general ledger are reviewed by senior Controllers on a sample basis with focus on unusual/ high value items.</p> <p>All adjustments to the GL after month-end close are independently reviewed and approved.</p>	<ul style="list-style-type: none"> Obtain a sample of the manual journals reviewed by the Senior Controllers. Verify their review and authorization: <ul style="list-style-type: none"> If the occurrence of these is rare, perform a walkthrough of the process; and Assess the frequency and number of journals in case this is due to systems issues.
<p>Accounting Systems</p> <p>Transactions are not recorded accurately, promptly and/or completely in all relevant accounting systems. Balances on accounting records are incorrectly stated. Material future P/L adjustments may result.</p>	<p>All data in Trading systems automatically feed GL system.</p> <p>Reconciliation of data feed between GL accounting system and Trading Desk systems.</p>	<ul style="list-style-type: none"> Confirm and evaluate the controls over the reconciliation of data feed between GL accounting system and Trading Desk systems. Based on a sample of GL vs. Trading Desk system reconciliations, including inter-company, ensure that discrepancies are reported and resolved timely.
<p>Account Verification</p> <p>GL accounts, including suspense accounts, are not owned and reconciled.</p> <p>Failure to identify and resolve unallocated balances may result in material future P/L adjustments.</p>	<p>A chart of accounts details a person or department responsible for reconciling accounts.</p> <p>Each month-end all balances must be reconciled to Front Office systems. Once a quarter the Product Control manager submits a balance sign-off sheet to Finance Control stating that all balance sheet accounts have been reconciled and reviewed.</p>	<ul style="list-style-type: none"> Review the process over reconciling balance sheet accounts and account ownership. For a sample of accounts, including cash, ensure that accounts have been reconciled and discrepancies are reported and resolved timely.

SIFMA Internal Audit Guidelines for Credit Derivatives

Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>Independent Price Verification</p> <p>There is no independent review of the Desk's positions and associated fair market values. As a result, the Desk's portfolio may be incorrectly marked and the Firm's books and records may be inaccurately reported.</p>	<p>Controllers substantiate traders' valuations against independent prices/pricing sources (consistent with the valuation policies) at least monthly. Alternative methods are used where valuation parameters or quotes are not obtainable (e.g., comparison with recent trade prices, sensitivity analysis, spread analysis).</p> <p>Prices are tested as part of the month-end process by Product Control. Outstanding positions are marked to market daily.</p> <p>The majority of positions are marked using curves and option volatilities from sources independent of the Trading Desk.</p> <p>Significant pricing issues/areas of particular subjectivity, material differences and adjustments will be highlighted and escalated to management from the pricing review. This will be reported on the price-testing summary.</p>	<ul style="list-style-type: none"> • Obtain and review independent price verification and off-market pricing policies with Product Control. • Based on a sample of positions (including FX volatilities and over mark-to-market outstanding positions), ensure that Product Control reviews Trading's marks for fair market values and that discrepancies are researched and resolved timely. In addition, ensure significant pricing issues are escalated to appropriate levels of management on a timely basis. • Based on a sample of positions, verify that all sources of price verification are independent.

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<p>Balance Sheet (B/S) Reporting</p> <p>B/S accounts do not have owners and are therefore not reviewed against supporting schedules. As a result, erroneous or suspended items may not be identified or reported.</p>	<p>Controllers review and sign off on their B/S accounts on a monthly basis. Material items are investigated and reported to Finance management.</p> <p>For each B/S account, there is adequate independence between the responsibilities for reconciliation, review and reporting (the ‘3Rs’).</p> <p>Periodic reviews are performed of the full Trading account population (including wash and test accounts) to inactivate all Trading accounts that are dormant. All inactive Trading accounts are subject to independent review prior to inactivation.</p>	<ul style="list-style-type: none"> • Review and document the B/S closing process to gain reasonable assurance that all accounts are accurately and timely reported at month-end. • Investigate any suspense items and/or unsupported assets/liabilities.

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D. Operations		
<p>Trade Entry/Capture</p> <p>Trade data is not recorded properly, resulting in errors in financial and regulatory reports.</p>	<p>Traders enter trades to the Front Office System, which in turn feeds the Back Office System (i.e., books and records). The Back Office System then feeds Desk's positions to the Firm's risk system(s).</p> <p>Daily reconciliations of trade data are performed to ensure all positions are captured accurately.</p> <p>Maintain log in Back Office to register written justification for off-market transactions.</p>	<ul style="list-style-type: none"> Review system diagram and/or process flow charts for the Desk; select a sample of trades and gain reasonable assurance that transactions were input timely to Front Office Trading systems, feed all relevant support systems accurately, and key controls are operating appropriately. For a sample period, obtain copies of Front-to-Back System reconciliations performed and analyze the following: <ul style="list-style-type: none"> Verify that reconciliations are performed daily and that discrepancies are investigated and resolved timely; and Trace and agree all reconciliation data back to source documentation. Review trading activity to determine if off-market rates are used; correlate with log documentation.
<p>Collateral Management</p> <p>Collateral is not marked to market daily, resulting in the risk of significant financial losses for the Firm.</p> <p>Margin calls are not made on a timely basis and not communicated to the Front Office or Credit, resulting in risk of significant financial losses for the Firm.</p>	<p>Operations is responsible for independently pricing collateral each day and making margin calls.</p> <p>Collateral is priced using an automated process for liquid securities and a manual process for illiquid securities.</p>	<ul style="list-style-type: none"> Discuss procedures for making margin calls and communicating with Front Office and Credit department. Verify the independence of price checking for collateral. Document the procedures and controls used to ensure that adequate collateral positions are held and properly monitored, including other credit enhancements considered.

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<p>Confirmations/Matching</p> <p>Confirmations are not sent independently of the Front Office or not sent out in a timely fashion with none of the key economics of the transactions being checked, resulting in possible fraud, legal or financial losses for the Firm.</p> <p>Confirmations received are not matched to the trade details, resulting in possible fraud, legal or financial losses for the Firm.</p> <p>There is no comprehensive management information kept on all outstanding confirmations highlighting their age and risk profile, leading to possible failure to follow-up high risk confirmations as a priority.</p>	<p>All the trade, legal and regulatory information in the confirmation is matched and for any discrepancy there is a tracking and escalation process.</p> <p>Operations uses a swap confirmation system to track the status of outstanding confirmations. There is a list of approved signatories who can sign agreements for the Firm. Signed confirmations are scanned into a document retention application.</p> <p>Outstanding confirmations are subject to investigation.</p> <p>All outstanding confirmations are not managed through comprehensive management information, highlighting their age and risk profile.</p> <p>A robust confirmations audit trail is put in place.</p> <p>All documents are retained as per the company policy on document retention.</p>	<ul style="list-style-type: none"> • For a period of five days surrounding the audit date, document the confirmations which should have been drawn up, when they were actually sent, when it was signed off by the counterparty and how many follow-up calls were made. • Ensure that confirmations cannot be suppressed and if they are suppressed, there is an appropriate level of authorization around the process. • In instances where the legal department produces the confirmation, verify that there is appropriate governance to ensure that Operations is not also producing the document. • Obtain a copy of the management information report surrounding this area for the month of the audit date. Where any concerning information is found, investigate where necessary and request further reports for different time periods. • For the walkthrough trades chosen for testing, ensure that the key economics of a trade, including the trade date, settlement date, the notional value, currency, basis of payment, interest calculation and term of the trade is applied and documented. • Document the confirmations which were received, how they are checked and documented, with any disputes noted. • Review the level of outstanding confirmations. Ensure that Operations has a follow-up procedure to risk rank those outstanding confirmations and ensure the high risk confirmations are the priority.

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<p>Document Retention and Security</p> <p>Copies of original documentation are not kept securely and are not retained for an adequate period of time. This may result in a violation of regulatory requirements.</p>	<p>Copies of all original documentation are kept securely by Operations.</p> <p>Agreements are retained indefinitely but are reviewed every 10 years.</p>	<ul style="list-style-type: none"> • Discuss document retention procedures. Verify that the 10-year reviews are properly documented. • Based on a sample of various business or counterparty documentation, ensure that documentation is retained in accordance with policy requirements.
<p>Settlement/Payment</p> <p>Standing Settlement Instructions (SSI) have not been established for all counterparties, leading to payments being made to the wrong counterparty and possible fraud or counterparty claims.</p> <p>Settlement details and payment instructions can be initiated, modified and executed by one user without the review and approval of another, allowing inappropriate or fraudulent transfers to be performed.</p>	<p>Transactions are independently confirmed with the counterparty by Operations before payment/receipt of funds. This includes counterparties with approved settlements instructions. All settlement instructions are supported by approved documentation.</p> <p>The system functionality for all payment applications prevents the same user from initiating and approving a wire transfer.</p>	<ul style="list-style-type: none"> • Document the settlement instructions for the walkthrough testing and that these transactions have not failed and have been processed to settlement. • In addition, obtain a copy of the management information report detailing failed or unmatched trades for the month that the audit date falls within. • Review the level of updates made to settlement instructions and ensure that where details are emailed there is an appropriate level of call back. • Document and review payment/receipt procedures, evaluate procedures for completeness and ensure that the procedures address the settlement of intercompany transactions. • For a sample of payments and receipts (including interest payments, premiums on options, and intercompany trades), verify that: <ul style="list-style-type: none"> – Amount of payment/receipt agrees with contract terms; – Payments are confirmed with counterparties prior to payment date; – Payment details, including counterparty address, bank

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		<p>name, Fed ABA#, and account numbers are accurate by agreeing to the confirmation and payment instructions;</p> <ul style="list-style-type: none"> – Swap interest payment/receipt for items selected agree to banking confirmations. In addition, document the procedures and control differences between swap interest and option premium payments processed via repetitive transfer vs. free-form transfer; – Fund disbursement instructions are properly authorized and in compliance with policy; – Repetitive wire instructions established for counterparties with frequent fund transfers; and – Wire transfer systems, personnel and their associated functions, are adequately segregated and users have restricted access (e.g., user ID passwords; physical access controls; and terminal access codes). <ul style="list-style-type: none"> • Obtain report listing all payments made to offshore accounts for the past six months and review to ensure approvals were obtained for payments. • Obtain report listing all free form payments made for the past three months and review to ensure appropriate approvals were obtained for the payments. • Verify all payment systems coupled to OFAC filtering software.
<p>Rate Resets</p> <p>Rates are not reset accurately or timely, resulting in inaccurate intra-period P/L and payment calculations.</p>	<p>Rate resets are controlled by Operations.</p> <p>Controllers review P/L impact for reasonableness.</p>	<ul style="list-style-type: none"> • Determine if rate resets are properly recorded and obtain supporting documentation on reset date to determine accuracy of the floating rate payment calculation (for the past rate reset for the various products). • Ensure Operations reviews the rate reset report, which details rate resets for each deal.

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Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
<p>Failed Transactions</p> <p>Failed transactions may not be properly investigated or resolved. As a result, the Firm may incur additional costs associated with processing such transactions.</p>	<p>Operations reports all failed transactions to the Desk. Operations researches the basis for the fail with the Front Office and the counterparty to ensure the fail is resolved on a timely basis.</p>	<ul style="list-style-type: none"> • Perform a review of failed payment/receipt settlement reports for the past three months and perform the following: <ul style="list-style-type: none"> – Obtain an explanation for existence of fails; and – Ensure follow-up was conducted timely and that fails were not indicative of a control weakness in the settlement process. • Ensure aged items were escalated to management.
<p>Cash and Position Reconciliations</p> <p>Incomplete or untimely reconciliations of cash and positions may result in untimely recognition of losses arising from errors or unauthorized transactions.</p>	<p>The Reconciliation group in Operations performs daily cash and position reconciliations.</p> <p>Unreconciled items are investigated and reported to senior management on a timely basis.</p>	<ul style="list-style-type: none"> • Identify the controls in place for monitoring and reconciling cash and suspense accounts, including intra/interdesk and intercompany trades. • Verify that suspense accounts are reviewed and cleared timely. • Select a sample of cash and position reconciliations for three non-consecutive days and perform the following: <ul style="list-style-type: none"> – Verify that reconciliations are prepared daily and that unreconciled items are aged, reported to senior management and resolved in a timely manner; – Verify supervisory review and approval over the reconciliation process; and – For one day, trace and agree all reconciliation data to source documentation. • Review settlement reconciliation between the custodian and the Firm's books and records for a sample of days.

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<p>Brokerage Rates</p> <p>Brokerage rates are not agreed with brokers. In addition, brokerage costs are not tracked, reconciled and accounted for with Front Office records. This may result in unauthorized payment and inaccurate books and records.</p>	<p>Brokerage costs are monitored independently of the traders by Operations.</p> <p>Brokerage is reconciled to Front Office systems and all differences are investigated by the traders and agreed by Operations.</p>	<ul style="list-style-type: none"> • Document and evaluate policy over the selection of brokers and controls over broker fee payments and avoiding broker concentration. • Select a sample of broker fee invoices and determine that broker fees are reconciled to books and records, recalculated and authorized prior to payment.
<p>Client Valuations</p> <p>Inappropriate pricing is provided to customers or third party, which may result in reputational and financial losses for the Firm.</p>	<p>Customer Valuation Statements (CVS) are generated independently from the Sales and Trading functions.</p> <p>Basis of CVS calculation is approved by traders and Product Control before initial valuation delivery. Underlying valuation parameters are sourced where appropriate from Firm risk systems or via a source agreed with Risk Management.</p>	<ul style="list-style-type: none"> • Document, and determine adequacy of, procedures performed to ensure appropriate pricing is provided to customers or third parties. • Select a sample of client valuations and ensure that they are properly authorized, approved and contain disclaimers that are approved by Legal.

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Risks to be Managed	Types of Controls to Manage/Eliminate Risks	Potential Audit Work Steps
E. Legal Documentation/Compliance		
<p>Documentation</p> <p>Legally binding counterparty documentation is not in place prior to trades being executed with the counterparty. In addition, outstanding legal documentation is not obtained timely, resulting in significant financial losses from unenforceable agreements or transactions.</p> <p>Credit derivative deals are structured and executed without maintaining critical documentation in a centralized location, resulting in regulatory violations and fines.</p>	<p>Agreement/Confirmation governing terms and conditions of transaction and any Term Sheets are obtained and reviewed by Legal.</p> <p>The Desk uses a checklist to confirm that critical documentation is maintained on file.</p> <p>Legal/outside counsel provides a checklist of required documents which is monitored to ensure critical documents are executed prior to extending credit. Post closing documents are tracked and chased and aged outstanding documents are reported to management.</p>	<ul style="list-style-type: none"> • Obtain and review current documentation policy for completeness. Based on the sample of transactions previously selected, ensure that: <ul style="list-style-type: none"> – A current list of authorized signatories is maintained; – Transaction confirmations and associated ISDA Master Agreements (MAs) have been executed by authorized signatories prior to trade execution; – Executed confirmation details reconcile to the trade details in the front end system and to the trade tickets; – Ensure someone other than the person that drafted the confirmation executed the confirmation; and – Ensure mitigating controls exist when cash settlements occur without receiving signed confirmations. • Obtain copy of outstanding MA and ensure outstanding agreements are followed-up timely. Reconcile this report to the Outstanding Confirmation Report and verify that long-form confirmations were executed with counterparties that do not have executed MAs. • Review outstanding confirmation statistics: <ul style="list-style-type: none"> – Verify that escalation procedures exist to notify management of aged outstanding documentation. • Obtain and review a representative sample of deal folders and compare the contents to the checklist for completeness: <ul style="list-style-type: none"> – Determine whether files are maintained in a centralized location and adhere to the Firm documentation retention policies.

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<p>Confirmation Templates</p> <p>Confirmations are sent to the counterparty on non-standard templates that have not been approved by Legal, resulting in potentially significant financial losses from unenforceable agreements or transactions.</p> <p>Confirmations do not include standard risk warnings as required by various regulatory agencies (e.g., SFA), resulting in unenforceable agreements or transactions.</p>	<p>Standard agreements relevant to the products traded are obtained from all counterparties.</p> <p>Legal reviews non-standard agreements before they are sent to any counterparty.</p>	<ul style="list-style-type: none"> • Interview Legal personnel to identify the standard agreements used in the market (e.g., ISDA, GMRA, and FEOMA) and obtain an explanation for any deviation from market practice: <ul style="list-style-type: none"> – Based on the above note sample, if any non-standard templates were used, verify that Legal approved the template.
<p>Service Level Agreements (SLAs)</p> <p>SLAs are not executed or properly approved for third party servicers/external counsel, increasing the risk that they will be deemed unenforceable in legal proceedings.</p>	<p>SLAs are reviewed jointly by Legal and the Desk heads to determine whether the terms and conditions of the agreements and the responsibilities of both parties are clearly defined.</p>	<ul style="list-style-type: none"> • Obtain and review all SLAs for third parties that provide services for these businesses. Based on a sample of SLAs, verify that agreements have been: <ul style="list-style-type: none"> – Executed by the appropriate personnel; – Reviewed by Legal and contain evidence of that review; and – Contain confidentiality clauses. • If SLAs are sent electronically, ensure files are encrypted.

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<p>Monitoring of Trade Activity</p> <p>Compliance does not monitor trade activity at the Credit Derivatives Desk timely, resulting in untimely identification of trade irregularities or other potential loss situations.</p>	<p>Compliance performs monitoring of late trades, cancellations and amendments, off market prices, and warehousing.</p>	<ul style="list-style-type: none"> • Document the processes established for monitoring trading activity by the Compliance department. • Ensure there is a defined process for the performance of trade monitoring based upon the inherent risk of the Trading Desk. • Ensure all exceptions identified within the monitoring are investigated and escalated as necessary.
<p>Off Market Rates</p> <p>Deals are executed at off-market rates that may lead to a loss-making situation.</p>	<p>Compliance reviews a spread report to ensure trades are not executed at off-market rates. Any issues will be discussed with the Desk and escalated if necessary.</p>	<ul style="list-style-type: none"> • Obtain and review Off-Market Pricing Policy and gain an understanding of Compliance's role in off-market pricing monitoring. • Verify adequacy of Compliance's procedures to ensure adherence to the Off-Market Pricing Policy.
<p>Compliance Training</p> <p>Traders have not had adequate Compliance training and they are unaware of current Compliance issues.</p>	<p>All traders received Compliance training when they joined the Firm and received annual refreshers to keep abreast of current issues.</p>	<ul style="list-style-type: none"> • Obtain evidence from Compliance that traders have received relevant Compliance training.
<p>Trader Registration</p> <p>Traders are not registered in all products they trade and may commit violations for entering orders for products without proper registrations.</p>	<p>Compliance monitors employee registrations, and verifies that employees hold the required registrations based on their job function.</p>	<ul style="list-style-type: none"> • Obtain from the Compliance department a report detailing the registration and licensing for all credit derivative Front Office personnel (e.g., traders and salespersons). • Verify appropriate registration for personnel by comparing the registration report against the respective organizational charts and legal entity registration and region requirements.

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F. Technology		
<p>Application Security</p> <p>Users have access rights greater than their assigned job responsibilities which could result in inadequate segregation of duties.</p> <p>Inadequate application security may result in fraudulent or inaccurate entries or changes to production data. This can hide or misstate profits or losses for the Firm.</p>	<p>Access rights should be properly managed and assigned to individuals aligned with their job responsibilities.</p> <p>Application security should have minimum levels of security, such as:</p> <ul style="list-style-type: none"> – User ID and password; – Minimum-length passwords; – Timeout after a period of inactivity; and – Violation reports. <p>For more critical applications, application security is made more robust.</p>	<ul style="list-style-type: none"> • Obtain a user access list for each major system and ensure that each user has a unique user account with access level in line with their responsibilities. Consider: <ul style="list-style-type: none"> – Normal users; – Privileged users and monitoring; – New access authorized in writing; – Removal of leavers; and – Access review on a regular basis (monthly). • Review the application security functionality to ensure that it has appropriate levels of security based on the criticality of the application.



III. Glossary

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III. GLOSSARY

The definitions in this section shall apply to the terms used in the guideline. Where terms are not defined in this section or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used.

Credit Event	Determined by negotiation between the parties at the outset of a credit (default) swap. Market standards include the existence of publicly available information confirming the occurrence - with respect to the reference credit - of bankruptcy, repudiation, restructuring, failure-to-pay, cross-default or cross-acceleration.
Credit Option	Put or call option on the price of either (a) a floating rate note, bond or loan or (b) an asset swap package, consisting of a credit-risky instrument with any payment characteristics, and a corresponding derivative contract that exchanges the cash flows of that instrument for a floating rate cash flow stream. Typically three or six month LIBOR plus a spread.
First-to-Default Swap	A CDS where the protection seller takes exposure to the first entity suffering a credit event within a basket. The credit position in each name in the basket is typically equal to the notional of the first-to-default swap. Losses are capped at the notional amount.
First-Loss Swap	CDS whereby the protection seller commits to indemnify the protection buyer for a pre-defined amount of losses incurred following one or more credit events in the portfolio.
Hedge	To reduce a risk by taking an offsetting position.
LIBOR	London Interbank Offer Rate. The rate at which banks lend funds in the international interbank market.
Mark-to-Market	The process of revaluing a financial instrument to reflect its current market value.
Notional Principal	The hypothetical amount on which swap payments are based.
Plain Vanilla Swap	US Dollar swap indexed to six month LIBOR
Reference Entity	Company or entity that is referred to in the contract.
Reference Obligation	Specific bond insured in the contract.
Recovery Rate	The percentage of the face value of the reference obligation paid if a credit event occurs. Recovery rates are one of the inputs into pricing a CDS contract (working out its value to either counterparty) prior to maturity. Most pricing methodologies estimate recovery rates by assigning a percentage to the seniority of the debt of a company.

The Audit Guidelines (the "guidelines") are intended to provide members of the Internal Auditors Division ("IAD"), an affiliate of the Securities Industry and Financial Markets Association ("SIFMA") with information for the purpose of developing or improving their approach towards auditing certain functions or products typically conducted by a registered broker-dealer. These guidelines do not represent a comprehensive list of all work steps or procedures that can be followed during the course of an audit and do not purport to be the official position or approach of any one group or organization, including IAD or any of its divisions or affiliates. Neither IAD, nor any of its divisions or affiliates, assumes any liability for errors or omissions resulting from the execution of any work steps within these guidelines or any other procedures derived from the reader's interpretation of such guidelines. In using these guidelines, member firms should consider the nature and context of their business and related risks to their organization and tailor the work steps accordingly. Internal auditors should always utilize professional judgment in determining appropriate work steps when executing an audit