Eris Exchange

November 1, 2011

BY ELECTRONIC FILING: submissions@cftc.gov

Mr. David Stawick
Secretary
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.B.
Washington, D.C. 20581

Re: Certification of Eris Exchange Interest Rate Swap Futures Product (Eris Exchange Submission #2011-01)

Dear Mr. Stawick:

Eris Exchange, LLC ("Eris Exchange" or the "Exchange") herby notifies the Commodity Futures Trading Commission (the "Commission") of its listing of the Eris Interest Rate Swap Futures Contract (the "Contract") on Eris Exchange's electronic trading platform ("Eris SwapBook") beginning November 7, 2011 (the "Submission").

Pursuant to Commission Regulation 40.2, the Submission includes:

(i) The Submission Cover Sheet;
(ii) A copy of the Contract's rules, which were previously submitted to the Commission as part of the Exchange's DCM Application, approved by the Commission on October 28, 2011;
(iii) The intended listing date;
(iv) A certification by Eris Exchange that the product to be listed complies with the Act and Commission regulations thereunder;
(v) A concise explanation and analysis of the Contract, attached documentation, and the Contract's compliance with applicable provisions of the Act; and,
(vi) A certification that Eris Exchange posted the notice of pending product certification with the Commission and a copy of the submission, concurrent with the filing of a submission with the Commission, on the Exchange's Web site.

Pursuant to Section 5c(c)(1) of the Commodity Exchange Act (the "Act") and Commission Regulation 40.2, Eris Exchange, certifies that the Eris Interest Rate Swap Futures Contract complies with the Act, including the core principles, and the Commission Regulations thereunder.

Eris Exchange

Eris Exchange further certifies that it has posted notice of pending product certification and a copy of the Submission on the Eris Exchange website, www.erisfutures.com.

In that event or if you have questions, please contact me at 312-626-2681 or stephen.humenik@erisfutures.com.

Sincerely,

Stephen M. Humenik
General Counsel and Chief Regulatory Officer

Eris Interest Rate Swap Futures Contract
Product Explanation and Analysis

The Eris Interest Rate Swap Futures Contract (the "Contract") is a cash settled futures contract based on interest rates. The Contract embeds the economics of a collateralized over-the-counter interest rate swap into a single futures price. The Contract is independently marked-to-market and settled every day by the Chicago Mercantile Exchange, Inc. ("CME Clearing") based on data from the overall interest rate market. The Contract does not have periodic cash flows like standard over the counter ("OTC") swaps, but replicates the economics of accrued and expected cash flows in the futures price, resulting in cash transfers through the daily variation margin process. Eris Exchange believes the Contract and the data on which it is based makes it unlikely that the Contract will be susceptible to manipulation. In addition, the Exchange's Market Regulation Department performs real-time surveillance, as well as trade practice and market surveillance to detect any conduct that may violate the Exchange Rules.

A. Contract Composition

The Contract Structure[1] is a $1 million notional principal which is used as the basis to calculate the value of periodic exchanges of interest. Fixed interest amounts are exchanged semiannually at a mutually-agreed-upon coupon rate per annum. Floating interest amounts are exchanged quarterly and are based on 3-month dollar LIBOR. The exchanges of interest occur over a mutually-agreed-upon term to maturity. The Contract Specification sets forth the Swap Futures Leg Conventions for the Fixed Leg and Floating Leg of the Contract. The Contract Size is one (1) Contract (or one (1) lot) equals $1 million USD face. The Effective Date is the first date from which fixed and floating amounts start to accrue. The Maturity Date is the last date to which fixed and floating amounts accrue. Contracts without a pre-defined fixed rate trade use a quoting convention in rate terms. These contracts will have a traded price of par. Changes in the value of the Contract are represented in by changes in the futures price. Contracts with a pre-determined fixed rated use a quoting convention in terms of Net Present Value ("NPV"). NPV is a component of the Eris Futures Price. Currently, the Effective Date of the Contract may be any valid business day up to 10 years from the trade date plus two days. The Underlying Tenor of the Contract, as measured from the Effective Date to the Cash Flow Alignment Date ("CFAD"), may be as long as thirty years. The Maturity Date is the final date to which fixed and floating amounts accrue. Reset Dates are the dates utilized to determine the fixed and floating amounts throughout the life of the Contract. *See* Attachment 1, *Eris Interest Rate Swap Futures Contract Specifications*.

[1] For purposes of this Product Explanation and Analysis, capitalized terms used, but not defined herein shall have the meanings set forth in the Contract Specification attached hereto as Attachment 1, *Eris Exchange Rulebook, Chapter 11: Eris Interest Rate Swap Futures Contract Specifications*, previously submitted to the Commission as part of the Exchange's DCM Application, approved by the Commission on October 28, 2011.

The value of the Contract or the Daily Settlement Price (Futures-Style Price) is based upon four components. The Contract is priced using a basis of 100, which is similar to market practice for bonds and other futures contracts. To calculate the value of the Contract: (1) the 100 basis price is; (2) added to the NPV of the future cash flows at the time of settlement; (3) plus the value of accumulated coupon ("AC") payments compounded daily at the Fed Funds rate; (4) minus the total return on modified variation margin ("TRMVM") at the time of settlement. TRMVM may also be referred to as Price Alignment Interest, PAI, or Eris PAI™. *See Attachment 1 and Attachment 2, Swap Future Pricing Specification.*

1. Index Price

The Daily Settlement Price means that the Contracts are priced on a basis of 100, which is a constant that acts as an index price.

2. Net Present Value

NPV is a term used in the OTC Interest Rate Swap (IRS) market. NPV is the net present value of all future fixed and floating amounts. For the settlement of the Contract, the 3-month dollar London Interbank Offered Rate ("LIBOR") curve is used to estimate the future floating leg payments. The overnight indexed swap ("OIS") curve is used to construct the LIBOR forward curve and to discount fixed and floating cash flows to present value. *See* Attachment 2; *see also* Attachment 3 OIS Based Curve Methodology (Confidential Treatment Requested by Eris Exchange, LLC Pursuant to 17 CFR 145.9).

LIBOR refers to a daily reference rate based on the interest rates at which banks borrow unsecured funds from other banks in the London wholesale money interbank market. LIBOR rates are widely used as a reference rate for financial instruments such as interest rate swaps. The British Bankers Association ("BBA") enlists a panel of banks in which each bank supplies the rate they perceive they could be offered funds in the London market for a certain currency and maturity. *See* BBALIBOR THE BASICS, http://www.bbalibor.com/bbalibor-explained/the-basics (last visited Oct. 25, 2011).

Thomson Reuters is the designated calculation agent for BBA. Thomson Reuters audits the data submitted by panel banks and creates the rates using the definitions provided by BBA's FX & MM Committee, under the supervision of BBA. The LIBOR rate produced by Thomson Reuters is calculated by using a trimmed arithmetic mean. Once Thomson Reuters receive each bank's submissions Thomson Reuters ranks them in descending order and then drops the top and bottom quartiles – this is known as the trimming. The middle two quartiles, reflecting 50% of the quotes, are then averaged to create the LIBOR quote. The BBA drops the bottom and top quartiles in the calculation in order to increase the accuracy of the LIBOR quotes. Dropping the outliers is done because an outlier does not reflect the market rate and it does not permit any one bank contributor to influence the calculation and affect the LIBOR quote. *See Id.*

Further, under the OIS methodology, discounting of future fixed and floating amounts is calibrated to the Fed Funds rate and derivatives instruments linked to the Fed Funds rates. *See* Attachment 3 for a detailed explanation of the Settlement Curve. In particular, the OIS curve is related to the OTC IRS market which is the largest derivative asset class in the world. According to the Bank for International Settlements the size of the OTC IRS market, as of December 2010, is an estimated $364 trillion in notional principal outstanding. *See* BIS Quarterly Review, September 2011, Page A131, Table 19 http://www.bis.org/publ/qtrpdf/r_qa1109.pdf.

Because LIBOR and the OIS curve are rates derived from a third-party (not Exchange Participants) and are based on commonly used and publically available information, NPV is not likely to be subject to manipulation.

3. Accumulated Coupon

Additionally, in the OTC markets, the parties to an IRS contract exchange fixed and variable coupon payments on set payment dates. *See* Attachment 4 *Cash Flow Equivalence.* In contrast, the parties to the Contract do not exchange cash coupon payments. Instead, the value of the coupon payments is embodied in the value of AC.

The value of AC is the value of all previous cash flows compounded at the Fed Funds overnight rate to the current time. *See* THE FEDERAL RESERVE BANK OF NEW YORK FEDERAL FUNDS DATA http://www.newyorkfed.org/markets/omo/dmm/fedfundsdata.cfm (last visited Oct. 25, 2011); *see also* Attachment 2. Under the Contract, Reset Dates define the beginning and end of fixed and floating interest accrual periods. In the period between Reset Dates, the value of the cash flows is reflected in the value of NPV. On the Reset Date, the cash flows shift from NPV to AC. The basis for setting all of the Reset Dates is the CFAD. The Reset Date occurs quarterly for floating contracts and semi-annually for fixed contracts. *See* Attachment 1.

Because the value of AC is based upon a pre-determined fixed rate and LIBOR, and the Reset Date is based on the fixed CFAD, AC is not subject to manipulation.

4. Total Return on Modified Variation Margin

The final component of the Contract is TRMVM. TRMVM adjusts the value of the Contract to account for the distinction between the treatment of collateral in OTC IRS and variation margin in futures.

When an OTC IRS trade moves against a party they are required to post collateral to the other party. The party posting collateral retains legal ownership of that collateral and will be paid interest by the party holding that collateral (i.e., the in-the-money party). The collateral transfer terms and interest rate paid on collateral are defined in the Credit Support Annex ("CSA") to the ISDA Master Agreement. The Contract assumes that the CSA has a $0 threshold and the interest rate is the overnight Fed Funds rate. *See* Attachment 2.

In contrast, when a futures contract moves against a party, there is a requirement to post variation margin to the clearinghouse. The clearinghouse will then credit the margin account of the other party in the trade (i.e., the in-the-money party). The party receiving the margin is the legal owner of those funds. It is assumed that funds in the margin account will earn interest. The party posting margin does not receive any interest on the funds that they have posted. *See* Attachment 2.

TRMVM is an adjustment to the value of the Contract to compensate the party posting margin for interest that would have been earned in an analogous OTC IRS. In the Contract, the adjustment is reflected as a reduction in the futures price for the party who is "in the money" and has received margin. *See* Attachment 2.

The traditional concept of TRMVM for interest rate swaps involves discrete daily interest payments or credits/debits between the counterparties to a contract. This is the approach employed by other market entities including some centralized counterparties. In order to track the total value of the swap throughout the life of its existence, the Contract embeds the cumulative TRMVM throughout the life of the Contract into the daily settlement price, referred to as Eris Price Alignment Interest or Eris PAI. This accumulation of daily interest adjustments allows the Contract to be traded on equivalent economic terms, without up-front payments, by any Eris Exchange market Participant. It is not relevant which parties bought and sold the original Contract. *See* Attachment 2.

Because TRMVM is defined in the Contract and the interest rate is the overnight Fed Funds rate, TRMVM is not readily susceptible to market manipulation.

B. Exchange Rules and Market Regulation

Additionally, Eris Exchange has established rules and an enforcement infrastructure to prevent the manipulation of the Contract. *See* Eris Exchange Rulebook dated November 7, 2011 (submitted as part of the Eris Exchange DCM Application and available at http://www.erisfutures.com/sites/default/files/ErisExchangeDCM Rulebook.pdf) (*see* Chapter 5: Trading Practices and Business Conduct; Chapter 6: Privately Negotiated Transactions; and Chapter 7: Disciplinary Rules). The Exchange has rules related to position limits and position accountability levels, (*see* Rules 530, 531, and 533) and receives reports of large positions in order to assess a trader's power. *See* Rule 532. The Exchange does not currently have position limits set for the Contract, due in part, to the fact that the Contract does not have a deliverable supply. At this time, the Exchange has determined that position accountability levels will allow the Exchange to monitor the market and enforce the rules. The Market Regulation Department monitors for positions that meet or exceed reportable levels.

The Eris Exchange Surveillance System will also generate alerts for various situations regarding open interest and large trader reported positions. The alerts include, but are not limited to, the following: (a) whenever an account is identified as a

large trader for the first time; (b) whenever large trader positions exceeds the reportable level; (c) whenever large trader positions exceeds speculative position limits; and, (d) whenever firm open interest exceeds Contract open interest by pre-defined limits.

The Exchange sanctions Participants for violating position limits pursuant to Rule 532(k)(5). For a first violation, a Participant receives a warning letter. For a second violation, a Participant receives an automatic fine of either $5,000 or $15,000 depending on the level of the violation. Any third or subsequent violation is referred to the Chief Regulatory Officer for consideration of an issuance of charges. The Exchange also has provisions related to violations of the Exchange's Market Manipulation Rule 508. *See* Rule 715 (Sanctions).

C. Conclusion

Because the terms of the Contract are based upon independent and readily available information, and the Exchange has an established enforcement infrastructure to combat Contract manipulation, the Contract is not readily susceptible to manipulation and complies with the Act, including the core principles (namely, Core Principle 2 (Compliance with Rules); Core Principle 3 (Contract Not Readily Susceptible to Manipulation); Core Principle 5 (Position Limits or Accountability)), and the Commission Regulations thereunder.

Attachment 1

Eris Interest Rate Swap Futures Contract Specifications

CHAPTER 11: CONTRACT SPECIFICATIONS

Eris Interest Rate Swap Futures Contract Specifications

Trading Hours	Eris Exchange standard trading hours are currently 8:20 AM to 4:30 PM Eastern Time.
Contract Structure	$1 million notional principal that exchanges semiannual fixed interest payments at a mutually-agreed-upon coupon rate per annum for floating interest payments based on 3-month dollar LIBOR, over a mutually-agreed-upon term to maturity.
Contract Size	1 Contract = 1 lot = $1 million USD face.
Trading Conventions	Buy = Pay Fixed Sell = Receive Fixed
Swap Futures Leg Conventions	Fixed Leg • Payment Frequency: Semi-Annual • Day Count Convention: 30/360 • Currency: USD • Holiday Calendar: New York, London • Business Day Convention: Modified Following with adjustment to period end dates Floating Leg • Rate Index: 3-Month LIBOR • Rate Offset: 2 • Payment Frequency: Quarterly • Day Count Convention: Actual/360 • Holiday Calendar: New York, London • Business Day Convention: Modified Following with adjustment to period end dates
Cash Flow Alignment Date ("CFAD")	The date used for aligning all fixed and floating reset dates. The Cash Flow Alignment Date can be defined as any date up to 30 years following the Effective Date. CFAD can be derived, if necessary, by adding the tenor to the Effective Date. For example, an Eris Interest Rate Swap Future with an Effective Date of 12/30/2010 and a tenor of three years implies a Cash Flow Alignment Date of 12/30/2013. Note that the Cash Flow Alignment Date may fall on any calendar day, including weekends and holidays. The CFAD is used to determine the Maturity Date, but the two terms are distinct, as the Maturity Date must fall on a valid business day from the joint holiday calendar.

Maturity Date	The final date to which fixed and floating amounts accrue. The Maturity Date may also be referred to as Termination Date. Maturity Date is determined by applying the Modified Following Rule to the Cash Flow Alignment Date. If the Cash Flow Alignment Date is a non-business day in either US or London, go forward to the next day that is a business day in both the US and London. If the next valid business day is in the following month, the preceding business day will be the Maturity Date. Eris PAI™ accrues up to and including the Maturity Date.
Effective Date	The first date from which fixed and floating interest amounts accrue. Eris Interest Rate Swap Futures Contracts can be traded during the forward, spot, and/or seasoned periods. The Ticker Symbol remains the same as it transitions between periods. Forward Period: • Contracts with an Effective Date greater than T+2 London business days (where T = today) are considered to be trading in the Forward period, and are colloquially referred to as "forward-starting swap futures." • The minimum possible forward period is 1 day (i.e., Effective Date T+3), and the maximum possible forward period is 10 years. Spot Period: • Contracts with an Effective Date equal to T+2 London business days are considered to be trading in the Spot Period, and are colloquially referred to as "spot-starting swap futures." • To determine the Effective Date of a spot-starting Eris Interest Rate Swap Future, move two business days forward from today in the London calendar, and then check the NY Fed Calendar. If it is not a holiday in the US, then that is the Effective Date. If it is a holiday in the US, then move one more business day forward in the London calendar and verify it is not a US holiday or weekend. Continue until an Effective Date is determined. Seasoned Period: • Contracts with an Effective Date earlier than T+2 London business days and where the Maturity Date is greater than t are considered to be trading in the Seasoned Period, and are colloquially referred to as "seasoned swap futures."
Underlying Tenor	The duration of time from the Effective Date to the Cash Flow Alignment Date. A Contract can have an Underlying Tenor as long dated as 30 years, with precision down to each valid business day.
Reset Dates	Dates utilized to determine fixed and floating amounts throughout the life of

	the Contract. Reset Dates define the beginning and end of fixed and floating interest accrual periods. Floating Rate Reset Dates facilitate the determination of the LIBOR reset dates. The Cash Flow Alignment Date will be used as the basis for determining Reset Dates. Each Reset Date is subject to adjustment based on Modified Following convention.
Last Trading Day	For Contracts that trade at least once during the Forward Period or Spot Period, the last day on which the Contract can be traded is the business day preceding the Maturity Date. Contracts that do not trade at least once during the Forward Period or Spot Period are not eligible to trade during the Seasoned Period.
First LIBOR Setting	For standard maturity Contracts (those with no stub period), the floating rate index for the initial floating rate period is the 3-month USD LIBOR setting announced by the British Bankers' Association two London business days prior to the Effective Date of the Contract. For Contracts with non-standard tenors, a short front stub period of less than 3 months may occur between the Effective Date and the Floating Rate Reset Date. In these cases, the rate index for the initial floating rate period is determined using linear interpolation of USD LIBOR indices announced by the British Bankers' Association two London business days prior to the Effective Date of the Contract. Interpolation is based on the two LIBOR indices which surround the first Floating Rate Reset Date. Note that 2 week LIBOR is not used for purposes of LIBOR interpolation.
Daily Settlement Price (Futures-Style Price)	Eris Interest Rate Swap Futures are priced on a basis of 100, similar to market practice for bonds and other futures contracts. The settlement value for each Contract is defined as: $S_t = 100 + NPV_t + AC_t - TRMVM_t$ S_t = settlement price at time t NPV_t = net present value of the future cash flows at time t AC_t = value of the accumulated coupon payments compounded daily at the Fed Funds overnight rate $TRMVM_t$= total return on modified variation margin at time t. TRMVM is also referred to as Eris Price Alignment Interest (or Eris PAI).

	Eris Exchange and CME Clearing currently calculate futures-style price to 4 decimals of precision (e.g., 100.1234). Eris PAI is assessed beginning on the first date that a contract trades.
Final Settlement Price	100 plus the net accumulated value of cash flows minus total return on modified variation margin: S_{final} = 100+AC_{final}-$TRMVM_{final}$ S_{final} = settlement price at time at maturity AC_{final} = net accumulated value of cash flows $TRMVM_{final}$ = total return on modified variation margin, or Eris PAI. Eris PAI is assessed beginning on the first date that a contract trades.
Quoting Convention – Par Swap Futures	During the Forward and Spot Periods, market participants can trade Par Swap Futures by negotiating the par fixed rate for a given Effective Date and Cash Flow Alignment Date. Each Par Swap Future negotiated in fixed rate terms carries an implicit futures-style price of 100.0000. For Par Swap Futures the fixed rate can be negotiated in increments of one-tenth of one basis point, from 0.000% to 9.999%.
Quoting Convention – Off-Market Swap Futures	During the Forward, Spot and Seasoned periods of a given Contract, defined by a certain Effective Date, Cash Flow Alignment Date AND Fixed Coupon, market participants can negotiate the Net Present Value (NPV) per Contract. NPV per Contract is expressed in terms of NPV for the Buyer. Each Off-Market Swap Future negotiated in NPV terms carries an implicit futures-style trade price of $Trade\ Price = 100 + NPV_{negotiated} + AC_t - TRMVM_t$ where $NPV_{negotiated}$ is the NPV per Contract agreed upon between the counterparties (divided by 10,000 to normalize units), ACt is the value of the accumulated coupon payments, and TRMVM is the total return on modified variation margin, or Eris PAI. The AC and TRMVM components are calculated once daily and applied by the Exchange, and are not subject to negotiation by the counterparties. Note: The NPV negotiated by counterparties trading of an off-market swap future is incorporated into the traded price using the formula above. For Off-Market Swap Futures executed on the Eris SwapBook™ electronic

	trading platform, the NPV per Contract can be negotiated in the following increments/tick sizes: • $50 for Contracts with remaining tenor of zero to seven years. • $100 for Contracts with remaining tenor of greater than seven and less than 20 years. • $200 for Contracts with remaining tenor greater than 20 years.
Ticker Symbol Convention	Product Family + Tenor + Maturity The first new trade for a given maturity date will be issued (by Eris Exchange systems) a ticker symbol comprised of Clearing Code 'Z(tenor category)0001', concatenated with the Period representing the maturity date in YYYYMMDD format. Tenor category are as follows: ZA = Tenors greater than zero and less than or equal to two years ZB = Tenors greater than two years and less than or equal to five years ZC = Tenors greater than five years and less than or equal to ten years ZD = Tenors greater than ten years The first Contract that trades with a particular maturity is assigned Product Family Z(A)0001. The next Contract that trades with the same maturity, but with a different start date or coupon, is assigned Product Family Z(A)0002. Assume that the trade is a 10-year swap initiated on 16-Dec-2010 with settlement date of 20-Dec-2020 and coupon of 0.710. As the first trade that carries the maturity date 20-Dec-2020, it will be issued ticker symbol ZC000120201220. The C denotes that this is in the 5+ to 10 years tenor category.

*Note that certain elements of the final settlement value computation process are patent pending.

Attachment 2

Swap Future Pricing Specification

Eris Exchange
The Future of Swaps

Eris Exchange Spot Starting Interest Rate Swap Futures:

Swap Future Pricing Specification

May 2011

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Eris Exchange
The Future of Swaps

Introduction to Eris Exchange Spot Starting Interest Rate Swap Futures

Eris Exchange spot starting interest rate swap futures ("Eris contracts") are futures contracts that provide the flexibility of un-cleared OTC interest rate swap(s) ("OTC IRS") with the security of cleared futures contracts that are marked to market on a daily basis. The construction of the Eris contract allows it to be used in place of an OTC IRS with similar terms. At any point during the life of the Eris contract, the total profit or loss to a market participant is equivalent to the amount that a party would realize by executing an OTC IRS. This paper examines the features and pricing formulas applied to the spot starting Eris contract.

Settlement Price Calculations

Eris interest rate swap futures are priced on a basis of 100, similar to market practice for bonds and other futures contracts.

The settlement value for the Eris contract is defined as:

$$S_t = 100 + NPV_t + AC_t - TRMVM_t \qquad [1]$$

Where S_t is the settlement price at time t, NPV_t is the **n**et **p**resent **v**alue of the future cash flows at time t, AC_t is the value of the **a**ccumulated **c**oupon payments compounded daily at the Fed Funds overnight rate, and TRMVM is the **t**otal **r**eturn on **m**odified **v**ariation **m**argin at time t. TRMVM is also referred to as 'Eris Price Alignment Interest' (or 'Eris PAI[tm]').

100 is a constant that acts as an index price. The purpose of the 100 index price is to reduce the likelihood that the Eris contract price becomes a negative number as rates fluctuate. Negative prices can present challenges for traditional clearing systems.

To simplify for discussion purposes, the following substitutions may be applied:

"A_t" = NPV_t

"B_t" = AC_t

"C_t" = $TRMVM_t$

The settlement formula may be expressed as:

$$S_t = 100 + A_t + B_t - C_t$$

Looking at each term:

NPV_t is a familiar term for swap traders accustomed to trading traditional OTC IRS. It is the net present value of all future fixed and floating payments. For settling Eris contracts, the LIBOR curve is used to estimate future floating leg payments. The OIS curve is used to construct the LIBOR forward curve and to discount fixed and floating cash flows to present value:

$$A_t = NPV_t = \sum_{i=1}^{n} L_i D(t,t_i) - \sum_{i=1}^{m} F_i D(t,t_i) \qquad [2]$$

L_i is the floating coupon at time t_i, F_i is the fixed coupon at time t_i and $D(t,t_i)$ is the value at time t of a riskless zero coupon bond worth 1 at t_i.

NPV_t may include interest from the prior fixed and floating swap reset dates that apply to the current period.

AC_t, the accumulated coupon is the value of all previous cash flows compounded at the overnight rate to the current time:

$$B_t = AC_t = \sum_{\theta=t_0}^{t}\left[C_\theta \prod_{\tau=\theta+1}^{t}(1 + r_{\tau-1}\Delta t_{\tau-1})\right] \quad [3]$$

Where t_o is the initial time, t is the current time, C_{t_i} is the cash flow paid/received at t_i, r_{t_i} is the fed funds overnight rate from t_i to t_{i+1}, and Δt_t is the fraction of a year from day t_i to t_{i+1}, using the Actual/365 day count convention. In the context of daily settlement, this can be more easily written as:

$$B_t = AC_t = C_t + AC_{t-1}(1 + r_{t-1}\Delta t_{t-1}) \quad [4]$$

It is important to understand the distinction between treatment of collateral in OTC IRS and variation margin in futures.

- OTC IRS Collateral: When a trade moves against a party they are required to post collateral to the other party. The party posting collateral retains legal ownership of that collateral and will be paid interest by the party holding that collateral (i.e., the in-the-money party). The collateral transfer terms and interest rate paid on collateral are defined in the Credit Support Annex ("CSA") to the ISDA Master Agreement. We assume that the CSA has a $0 Threshold and the interest rate is the overnight Fed Funds rate.
- Futures Variation Margin: When a futures contract moves against a party, there is a requirement to post variation margin to the clearinghouse. The clearinghouse will then credit the margin account of the other party in the trade (i.e., the in-the-money party). The party receiving the margin is the legal owner of those funds. It is assumed that funds in the margin account will earn interest. The party posting margin does not receive any interest on the funds that they have posted.

$TRMVM_t$ is an adjustment to the value of the Eris contract to compensate the party posting margin for interest that would have been earned in an analogous OTC IRS (also referred to as Eris PAI). In the Eris contract the adjustment is reflected as a reduction in the futures price for the party who is 'in the money' and has received margin.

The traditional concept of PAI for interest rate swaps involves discrete daily interest payments between the counterparties to a contract. This is the approach employed by other market entities including some centralized counterparties. In order to track the total value of the swap throughout the life of its existence, the Eris contract embeds the cumulative PAI throughout the life of the contract into the daily settlement price. This accumulation of daily interest adjustments allows the contract to be traded on equivalent economic terms, without up-front payments, by

any Eris Exchange market participant. It is not relevant which parties bought and sold the original contract.

$$C_t = TRMVM_t = (S_{t-1} - 100 + TRMVM_{t-1})r_{t-1}\Delta t_{t-1} + TRMVM_{t-1} \quad [5]$$

Substituting [1]:

$$C_t = TRMVM_t = (NPV_{t-1} + AC_{t-1})r_{t-1}\Delta t_{t-1} + TRMVM_{t-1} \quad [6]$$

Taking the terms above, and looking at the daily returns on an Eris contract, from equation [1]:

$$S_t - S_{t-1} = NPV_t - NPV_{t-1} + AC_t - AC_{t-1} - (TRMVM_t - TRMVM_{t-1}) \quad [7]$$

Substituting [4] and [6], [7] can be rewritten as:

$$S_t - S_{t-1} = (NPV_t - NPV_{t-1}) + [C_t + AC_{t-1}(1 + r_{t-1}\Delta t_{t-1}) - AC_{t-1}] \quad [8]$$
$$-[(NPV_{t-1} + AC_{t-1})r_{t-1}\Delta t_{t-1} + TRMVM_{t-1} - TRMVM_{t-1}]$$

Simplifying, this becomes:

$$S_t - S_{t-1} = (NPV_t - NPV_{t-1}) + C_t - NPV_{t-1}r_{t-1}\Delta t_{t-1} \quad [9]$$

Interpreting this, $(NPV_t - NPV_{t-1})$ is the change in the value of an OTC IRS. C_t is the cash flows at the current time, so that any changes in NPV due to cash flows are balanced by the cash flow itself. The first two terms of the daily change in value are identical to those of an OTC IRS.

The final term, $-NPV_{t-1}r_{t-1}\Delta t_{t-1}$ is the interest on the previous day's collateral. It is negative because it is intended to offset the overnight interest on the margin account.

Note from equation [5] that TRMVM (also referred to as Eris PAI) is measured versus a base of 100 throughout the life of the contract. An unwind of an Eris contract is effectively a transfer of that position to another counterparty. The instrument created by the original trade will remain outstanding until the maturity date. The basis for TRMVM calculations must remain at 100 because the TRMVM accumulates over the life of the contract and is a determinant of the terminal value.

Examples

Below are step-by-step examples showing the valuation and settlement procedure for an Eris contract over the course of several days, and at different points during the life of the contract. The values are compared against the returns of similar OTC IRS.

Example 1: *Initiating a Trade*

Trader #1 buys 1 Eris contract from Trader #2:

- 'Buy' means to 'pay fixed' or to have a 'long position'
- 1 contract represents $1,000,000 notional
- 2 year contract at a 2% fixed rate
- Trade executed on 12/1/2008

Tables 1 and 2 illustrate cash flow dates, and accrual periods:

Table 1

Fixed				
Cash Flow Dates	**Accrual Start**	**Accrual End**	**Day Count**	**Year Fraction**
6/3/2009	12/3/2008	6/3/2009	180	0.5
12/3/2009	6/3/2009	12/3/2009	180	0.5
6/3/2010	12/3/2009	6/3/2010	180	0.5
12/3/2010	6/3/2010	12/3/2010	180	0.5

Table 1 was generated to illustrate semi-annual fixed rate cash flows using a 30/360 day count.

Each LIBOR settling is determined 2 business days prior to the fixing period. Quarterly cash flows are generated using an Actual/360 day-count.

Table 2

Floating					
Fixing Date	**Payment Date**	**Accrual Start**	**Accrual End**	**Day Count**	**Year Fraction**
12/1/2008	3/3/2009	12/3/2008	3/3/2009	90	0.25
2/27/2009	6/3/2009	3/3/2009	6/3/2009	92	0.255555556
6/1/2009	9/3/2009	6/3/2009	9/3/2009	92	0.255555556
9/1/2009	12/3/2009	9/3/2009	12/3/2009	91	0.252777778
12/1/2009	3/3/2010	12/3/2009	3/3/2010	90	0.25
3/1/2010	6/3/2010	3/3/2010	6/3/2010	92	0.255555556
6/1/2010	9/3/2010	6/3/2010	9/3/2010	92	0.255555556
9/1/2010	12/3/2010	9/3/2010	12/3/2010	91	0.252777778

At the time of the trade initiation, the LIBOR rate would be ~1.9702%, for the Eris contract to have an initial value of 0. For purposes of the example, we assume that the OIS curve is flat at 1% for all tenors and is compounded nightly.

Table 3

Fixed				
Payment Date	Year Fraction	Cash Flow	Discount Factor	Present Value
6/3/2009	0.5	$10,000.00	0.994971658	$9,949.72
12/3/2009	0.5	$10,000.00	0.989995722	$9,899.96
6/3/2010	0.5	$10,000.00	0.985071659	$9,850.72
12/3/2010	0.5	$10,000.00	0.980145235	$9,801.45
			Total:	$39,501.84

Table 4

Floating				
Payment Date	Year Fraction	Cash Flow	Discount Factor	Present Value
3/3/2009	0.25	$4,925.38	0.99748266	$4,912.98
6/3/2009	0.255555556	$5,034.83	0.994971658	$5,009.51
9/3/2009	0.255555556	$5,034.83	0.992466976	$4,996.90
12/3/2009	0.252777778	$4,980.10	0.989995722	$4,930.28
3/3/2010	0.25	$4,925.38	0.987557677	$4,864.09
6/3/2010	0.255555556	$5,034.83	0.985071659	$4,959.67
9/3/2010	0.255555556	$5,034.83	0.982591899	$4,947.18
12/3/2010	0.252777778	$4,980.10	0.980145235	$4,881.23
			Total:	$39,501.85

We now assume that at the end of the day the swap was executed that the LIBOR forward curve is flat at 2%. We can construct a payment schedule, discount future cash flows, and determine the NPV of the transaction.

Table 5

Fixed				
Payment Date	Year Fraction	Cash Flow	Discount Factor	Present Value
6/3/2009	0.5	$10,000.00	0.994971658	$9,949.72
12/3/2009	0.5	$10,000.00	0.989995722	$9,899.96
6/3/2010	0.5	$10,000.00	0.985071659	$9,850.72
12/3/2010	0.5	$10,000.00	0.980145235	$9,801.45
			Total:	$39,501.84

Table 6

Floating				
Payment Date	Year Fraction	Cash Flow	Discount Factor	Present Value
3/3/2009	0.25	$5,000.00	0.99748266	$4,987.41
6/3/2009	0.255555556	$5,111.11	0.994971658	$5,085.41
9/3/2009	0.255555556	$5,111.11	0.992466976	$5,072.61
12/3/2009	0.252777778	$5,055.56	0.989995722	$5,004.98
3/3/2010	0.25	$5,000.00	0.987557677	$4,937.79
6/3/2010	0.255555556	$5,111.11	0.985071659	$5,034.81
9/3/2010	0.255555556	$5,111.11	0.982591899	$5,022.14
12/3/2010	0.252777778	$5,055.56	0.980145235	$4,955.18
			Total:	$40,100.33

The current methodology is for individual components of the Eris futures price to be calculated to 6 decimal places, and for the Eris Futures price to be rounded to 4 decimal places. For purposes of these examples, we will ignore those constraints.

Per Contract $NPV_0 = NPV_{floating} - NPV_{fixed}$ = $40,100.33 -$39,501.84 = $598.48

The values of the various components can be divided by 10,000 to express the contract value on a 100 basis

NPV_0 = 598.48 / 10,000 = 0.059848

As no coupons have been paid, AC = $0

Because there has been no margin held overnight, TRMVM = $0

Settlement Price for this swap on the first day would be:

$$S_0 = 100 + NPV_0 + AC_0 - TRMVM_0 = 100 + A_0 + B_0 - C_0$$

$$S_0 = 100 + 0.059848 + 0 - 0 = 100.059848$$

Moving forward to the next day, if the LIBOR swap and OIS curves are unchanged overnight, then the only change in the NPV of the swap comes from the slight change in discount factors as the cash flow days are now one day closer.

Table 7

Fixed				
Payment Date	Year Fraction	Cash Flow	Discount Factor	Present Value
6/3/2009	0.5	$10,000.00	0.994998917	$9,949.99
12/3/2009	0.5	$10,000.00	0.990022845	$9,900.23
6/3/2010	0.5	$10,000.00	0.985098648	$9,850.99
12/3/2010	0.5	$10,000.00	0.980172088	$9,801.72

			Total:	$39,502.92

Table 8

Floating				
Payment Date	**Year Fraction**	**Cash Flow**	**Discount Factor**	**Present Value**
3/3/2009	0.25	$5,000.00	0.997509989	$4,987.55
6/3/2009	0.255555556	$5,111.11	0.994998917	$5,085.55
9/3/2009	0.255555556	$5,111.11	0.992494167	$5,072.75
12/3/2009	0.252777778	$5,055.56	0.990022845	$5,005.12
3/3/2010	0.25	$5,000.00	0.987584734	$4,937.92
6/3/2010	0.255555556	$5,111.11	0.985098648	$5,034.95
9/3/2010	0.255555556	$5,111.11	0.98261882	$5,022.27
12/3/2010	0.252777778	$5,055.56	0.980172088	$4,955.31
			Total:	$40,101.42

Per Contract NPV_1 = $40,101.42 - $39,502.92 = $598.50

NPV_1= 598.50 / 10,000 = 0.059850 = A_1

$AC_1 = 0 = B_1$

$TRMVM_1 = (S_0 - 100 + TRMVM_0)r_0\Delta t_0 + TRMVM_0 = C_1$

$TRMVM_1 = (100.059848 - 100 + 0)*1\%*(1/365) + 0 = 0.000002 = C_1$

$S_1 = 100 + NPV_1 + AC_1 - TRMVM_1 = 100 + A_1 + B_1 - C_1$

$S_1 = 100 + 0.059850 + 0 - 0.000002 = 100.059848$

Below is a comparison of the total value of holding a long position (i.e. paying fixed) in an Eris contract versus an OTC IRS. Recall that the party posting collateral on OTC IRS earns interest per the terms of the CSA.

In a futures contract, the party posting variation margin does not earn interest. The party receiving margin can invest those funds and earn interest.

Table 9

	Eris Swap Future	**Traditional OTC IRS**
Transaction Value	$598.48	$598.50
Interest earned on variation margin	$0.02	$0.00
Total	$598.50	$598.50

Example 2: ***Period covering a swap coupon payment***

Consider the same swap used in **Example 1**. On 3/2/2009, one day before the first floating coupon is paid, assume the initial values are as follows:

Per Contract $NPV_{3/2/2009}$ = $25,000.00

$NPV_{3/2/2009}$= 25,000 / 10,000 = 2.5 = $A_{3/2/2009}$

$AC_{3/2/2009}$ = 0 = $B_{3/2/2009}$

Per Contract $TRMVM_{3/2/2009}$ = $50

$TRMVM_{3/2/2009}$ = 50 / 10,000 = 0.005 = $C_{3/2/2009}$

$S_{3/2/2009}$ = 100 + 2.5 + 0 – 0.005 = 102.495000 = 100 + $A_{3/2/2009}$ + $B_{3/2/2009}$ - $C_{3/2/2009}$

On 3/3/2009, at settlement, the coupon is paid and the value of the coupon shifts from the NPV, to the AC. In a traditional OTC IRS, this would be a cash payment.

Per Contract $NPV_{3/3/2009}$ = $20,000.00

$NPV_{3/3/2009}$ = 20,000.00 / 10,000 = 2.0 = $A_{3/3/2009}$

Per Contract $AC_{3/3/2009}$ = $5,000.00 + $AC_{3/2/2009}(1+r_{3/2/2009}1/365)$ = $5,000.00

$AC_{3/3/2009}$ = 5,000.00 / 10,000 = 0.5 = $B_{3/3/2009}$

$TRMVM_{3/3/2009}$ = $(NPV_{3/2/2009} + AC_{3/2/2009})r_{3/2/2009}\Delta t_{3/2/2009} + TRMVM_{3/2/2009}$ = $C_{3/3/2009}$

$TRMVM_{3/3/2009}$ = ($25,000+$0.00)*1%*1/365 + $50 = $50.68 = $C_{3/3/2009}$

$S_{3/3/2009}$ = 100 + 2 + 0.5 – 0.005068 = 102.494932 = 100 + $A_{3/3/2009}$ + $B_{3/3/2009}$ - $C_{3/3/2009}$

Performing the same calculations for 3/4/2009,

Per Contract $NPV_{3/4/2009}$ = $20,000.00

$NPV_{3/4/2009}$ = 20,000.00 / 10,000 = 2.0 = $A_{3/4/2009}$

Per Contract $AC_{3/4/2009}$ = $0.00 + $5,000*(1+1%*1/365) = $5000.14

$AC_{3/4/2009}$ = 5000.14 / 10,000 = 0.500014 = $B_{3/4/2009}$

Per Contract $TRMVM_{3/4/2009}$ = ($20,000+$5,000)*1%*1/365 + $50.68 = $51.36

$TRMVM_{3/4/2009}$ = 51.36 / 10,000 = 0.005136 = $C_{3/4/2009}$

$S_{3/4/2009}$ = 100 + 2 + 0.500014 – 0.005136 = 102.494878 = 100 + $A_{3/4/2009}$ + $B_{3/4/2009}$ - $C_{3/4/2009}$

Below is a comparison of the total value of the Eris swap future and a traditional OTC IRS from the perspective of the party long the contract, Trader #1:

Table 10

Eris Contract						
Date	NPV (A)	AC (B)	TRMVM (C)	Eris Contract Settlement Price	Cumulative Interest earned on variation margin	Total Value
3/2/2009	$25,000.00	$0.00	$50.00	$102.495000	$50.00	$25,000.00
3/3/2009	$20,000.00	$5,000.00	$50.68	$102.494932	$50.68	$25,000.00
3/4/2009	$20,000.00	$5,000.14	$51.36	$102.494878	$51.36	$25,000.14

Table 11

Traditional OTC Swap					
Date	NPV	Cumulative Coupons	Cumulative Interest earned on coupon re-investment	Cumulative Interest earned on collateral received	Total Value
3/2/2009	$25,000.00	$0.00	$0.00	$0.00	$25,000.00
3/3/2009	$20,000.00	$5,000.00	$0.00	$0.00	$25,000.00
3/4/2009	$20,000.00	$5,000.00	$0.14	$0.00	$25,000.14

Example 3: *Swap is unwound*

Assume that during the trading day on 3/4/2009 Trader #1 wants to unwind the position. Recall from Example 2 that $B_{3/4/2009}$ and $C_{3/4/2009}$ have already been established and will remain static throughout the day:

$AC_{3/4/2009} = 0.500014 = B_{3/4/2009}$

$TRMVM_{3/4/2009} = 0.005136 = C_{3/4/2009}$

Trader #1 will solicit unwind values from market participants which will be expressed in price (USD) as is the market practice for unwinds of OTC IRS. The unwind quotes represent 'A', which is the NPV per contract:

Trader #3 Unwind NPV: $21,000

Trader #4 Unwind NPV: $19,500

Trader #5 Unwind NPV: $18,900

Trader #1 will choose the highest unwind NPV of $21,000 from Trader #3 and execute the unwind transaction. This equate to 2.1 on a 100 basis (21,000 / 10,000).

Unwind Price = $100 + NPV_{unwind} + AC_{3/4/2009} - TRMVM_{3/4/2009} = 100 + A_{unwind} + B_{3/4/2009} - C_{3/4/2009}$

Unwind Price = 100 + 2.1 + 0.500014 - 0.005136 = 102.594878

Because the unwinding party executed the contract at 100, the total value realized is:

Trader #1 P&L = (102.594878 – 100) * 10,000 * 1 = $25,948.78

Trader #1 will monetize the P&L through funds in the margin account. In this case, the margin account will need to be adjusted by the clearinghouse following the unwind. The current balance in the margin account is the difference between the prior settlement and the purchase price of the contract, which is less than the unwind amount less the purchase price:

Margin account value: (102.494878 – 100) * 10,000 * 1 = $24,948.78

Because the Unwind Price is $1,000 higher than the prior settlement value, $S_{3/4/2009}$, the clearinghouse will pay trader #1 $1,000 in variation margin on 3/4/2009:

Unwind Price - $S_{3/4/2009}$ = 102.594878 – 102.494878 = 0.10

Amount due to Trader #1 by clearinghouse = 0.10 * 10,000 * 1 = $1,000

The party that transacts the unwind, Trader #3, will replace Trader #1 as the holder of the contract.

At the end of the trading day on which the unwind occurred, the position will be revalued and required variation margin will be determined. For example:

- If the Eris futures price is 103.0000, Trader #3's margin account will be increased by $4,051. 22. This value represents the difference between the end of day value and the Unwind Price:

  $4,051.22 = (103.0000 – 102.594878) * 10,000 * 1

- If the Eris contract value is 102.0000, Trader #3's margin account will be reduced by $5,948.78. This value represents the difference between the end of day value and the Unwind Price:

  -$5,948.78 = (102.0000 – 102.594878) * 10,000 * 1

- If the Eris contract value at the end of the day is equal to Unwind Price, the new party's margin account will not change
- Trader #2, the original Eris contract seller, will continue to post and/or receive variation margin as in prior periods.
  - Trader #2 will not know that Trader #1 has unwound their position – unless they were a bidder in the unwind process

Eris Exchange
The Future of Swaps

Eris Exchange Publicly Available Files

Eris Exchange strives for transparency in how we value our instruments. This ensures that Interest Rate Swap Futures can be traded anonymously and fairly within the marketplace. To that end, we publicly disseminate output files that describe how Eris Exchange interest rate swap futures are valued. A list of those files, and descriptions of the data in those files, can be found below.

Name	Description	File Name	Delivery Time
1. Eris Exchange BOD Pricing File	Eris Exchange beginning of day pricing file provides a list of all tickers, previous days settlement prices, and B&C values calculated using the Fed Funds Rate published by the New York Federal Reserve that morning.	Eris_YYYYDDMM_BOD_SwapPrices_OIS.csv	8:15 am ET (7:15 am CT)
2. Eris Exchange EOD Pricing File	End of day pricing file that incorporates the 100 + A (NPV) + B (Historical coupon payments) - C (Total Return on Variation Margin) calculation to derive the daily settlement price for open tickers.	Eris_YYYYMMDD_EOD_SwapPrices_OIS.csv	4:45 pm ET (3:45 pm CT)
3. Eris Exchange Curve File	"The Eris Curve" as of 3:00 pm NY time, incorporating LIBOR cash flow amounts with OIS discounting. Column A shows the duration (2y to 30y), and Column L (labeled "FairCoupon (%)") shows the coupon rate that would result in zero-NPV swap.	Eris_YYYYMMDD_EOD_ParCouponCurve_OIS.csv	4:45 pm ET (3:45 pm CT)

4. Eris Exchange LIBOR Discount Factor File	Daily LIBOR discount factors, spot rates and 3-month fixings for 30 years.	Eris_YYYYMMDD_EOD_DiscountFactors_LIBOR. Csv	4:45 pm ET (3:45 pm CT)
5. Eris Exchange OIS Discount Factor File	Daily OIS discount factors and spot rates for 30 years.	Eris_YYYYMMDD_EOD_DiscountFactors_OIS.csv	4:45 pm ET (3:45 pm CT)
6. Eris Exchange Swap Leg Price File	Daily pricing file that shows the fixed and floating payment dates and rates for Eris Exchange tickers, including most recent reset rate for floating leg.	Eris_YYYYMMDD_EOD_PricedSwapLegAnalysis_OIS.csv	4:45 pm ET (3:45 pm CT)
7. Eris Exchange Swap Holidays File	Daily files that shows the every exchange holiday for the next 40 years.	Eris_YYYYMMDD_EOD_Holidays.csv	4:45 pm ET (3:45 pm CT)

Eris Exchange EOD Pricing File

Column Heading	Description of Data	Data Format	Units	Decimal Places
Symbol	The exchange assigned symbol, based on Tenor Bucket and a counter to differentiate between similar instruments. For more information on how tickers are created, please see Ticker Symbology. Example: ZA0001	String	NA	NA
FinalSettlementPrice	This is the settlement price published by CME.	Float	Dollars per million notional divided by 10,000[1]	4
EvaluationDate	This is the date the file was processed.	Date	MM/DD/YYYY	NA
FirstTradeDate	This represents the date the trade was initiated.	Date	MM/DD/YYYY	NA
TRMVMDate	The date from which return on variation margin will start to accrue. TRMVM will be non-zero on the first business day after this date.	Date	MM/DD/YYYY	NA
EffectiveDate	The start date of the first accrual period. For Spot Starting Swaps, this is 2 days after the First Trade Date, subject to Fed and UK holiday calendars.	Date	MM/DD/YYYY	NA
CashflowAlignmentDate	The date selected at the time of the trade for setting up cash flow (payment) dates for interest rate swap futures that are not Spot Starting.	Date	MM/DD/YYYY	NA

Column Heading	Description of Data	Data Format	Units	Decimal Places
Maturity Date	The final day of the contract. Cash Flow Alignment Date adjusted by Modified Following on the Joint Fed/UK Calendar	Date	MM/DD/YYYY	NA
NPV (A)	This value corresponds to NPV_t in the equations used in this paper. The NPV represents net present value of the future cash flows at time t. This is also one of the primary inputs needed for calculating a futures price for an interest rate swap future, using the calculation of FuturesPrice = 100+A+B-C. NPV is per 100 notional.	Float	Dollars per million notional divided by 10,000	8
FixedNPV	The NPV (Net Present Value) for the fixed leg of the trade, calculated that day. NPV is per 100 notional.	Float	Dollars per million notional divided by 10,000	8
FloatingNPV	The NPV (Net Present Value) for the floating leg of the trade, calculated that day. NPV is per 100 notional.	Float	Dollars per million notional divided by 10,000	8
Coupon (%)	The agreed upon fixed rate for the interest rate swap future.	Float	Rate in %	6
FairCoupon (%)	The coupon that would have resulted in NPV = 0.	Float	Rate in %	8

Column Heading	Description of Data	Data Format	Units	Decimal Places
Fixed Payment	Fixed Payment that occurs on the Evaluation Date. Payment is for 100 Notional.	Float	Dollars per million notional divided by 10,000	8
FloatingPayment	Floating Payment that occurs on the Evaluation Date. Payment is for 100 Notional.	Float	Dollars per million notional divided by 10,000	8
NextFixedPaymentDate	The date the next fixed payment will be made.	Date	MM/DD/YYYY	NA
NextFixedPaymentAmount	The next fixed payment amount.	Float	Dollars per million notional divided by 10,000	8
PreviousFixingDate	The date the floating rate was set for the next floating payment	Date	MM/DD/YYYY	NA
3mLiborRate (Decimal)	The 3 month LIBOR rate applied to the Floating leg for that instrument.	Float	Rate in %	8
NextFloatingPaymentDate	The date the next floating payment will be made	Date	MM/DD/YYYY	NA

Column Heading	Description of Data	Data Format	Units	Decimal Places
NextFloatingPaymentAmount	The next floating payment amount.	Float	Dollars per million notional divided by 10,000	8
NextFixingDate	The date at which the 3 month LIBOR rate will be assigned for the next floating leg period.	Date	MM/DD/YYYY	NA
Previous Settlement Date	This value corresponds to t-1 in the equations used in this paper. The last business day a settlement price was calculated.	Date	MM/DD/YYYY	NA
PreviousSettlementPrice	This value corresponds to S_{t-1} in the equations used in this paper. Settlement price calculated on Previous Settlement Date.	Float	Dollars per million notional divided by 10,000	8
PreviousTRMVM	This value corresponds to $TRMVM_{t-1}$ in the equations used in this paper. The TRMVM on the Previous Settlement Date.	Float	Dollars per million notional divided by 10,000	8
FedFundsDate	The date that the for which the fed funds date was published (for example, a date of 4/12/2011 means that the rate was published on 4/13/11 by the NY Federal Reserve and applies from 4/12/2011 to 4/13/2011). Rate accrues from this date forward one business day.	Date	MM/DD/YYYY	NA
FedFundsRate (%)	This value corresponds to r_{t-1} in the equations used in this paper. The Fed Funds Rate published for the Fed Funds Date by the	Float	Rate in %	8

Column Heading	Description of Data	Data Format	Units	Decimal Places
	New York Federal reserve Bank. Rate is published at approximately 7AM CST for accruals overnight from previous business day to today.			
Accrualdays	How many days have passed since settlement price was last calculated. This value is generally 1, but accounting for weekends and holidays, could be greater than 1.	Int	Days	0
DailyReturnOnVM	This number represents the day over day variation margin for 1 contract for this instrument ID, or $TRMVM_t$ -$TRMVM_{t-1}$. As this instrument is a future and not a swap, margin is posted using variation margin as opposed to collateral. Whereas the holder of collateral retains any interest made off that collateral, interest is returned to the customer for variation margin. In order to mimic the economics of OTC swaps, interest on variation margin is calculated included in the overall futures price of the instrument.	Float	Dollars per million notional divided by 10,000	8
Accrued Coupons (B)	This value corresponds to AC_t in the equations used in this paper. As this instrument is a future and not a swap, no payments actually change hands throughout the life of the contract. This value represents accumulated coupon payments compounded daily at an overnight rate, and is one of the primary inputs needed for calculating a futures price for an interest rate swap future, using the calculation of FuturesPrice = 100+A+B-C.	Float	Dollars per million notional divided by 10,000	8
TRMVM (C)	This value corresponds to $TRMVM_t$ in the equations used in this paper. Total Return on Modified Variation Margin (TRMVM) is the	Float	Dollars per million notional divided by	8

Column Heading	Description of Data	Data Format	Units	Decimal Places
	cumulative daily interest adjustment, or Total Return on Modified Variation Margin at time t. As this instrument is a future and not a swap, margin is posted using variation margin as opposed to collateral. Whereas the holder of collateral retains any interest made off that collateral, interest is returned to the customer for variation margin. TRMVM is one of the primary inputs needed for calculating a futures price for an interest rate swap future, using the calculation of FuturesPrice = 100+A+B-C.		10,000	
Settlement Price (100+A+B-C)	The settlement price for the instrument, calculated that day.	Float	Dollars per million notional divided by 10,000	8
RFQ NPV Tick Size	The minimum NPV increment, in dollars, that can be used to price Requests for Quotes. This is based on the tenor of the interest rate swap futures. • 0 years – 6.99 years is $50 • 7 years – 19.99 years is $100 • 20 years+ is $200	Int	Dollars per contract	
Nominal	This is the notional value used to calculate NPV's and Fixed and Floating Payment amounts. A notional of 100 is used to calculate the settlement price because the point value of the futures contract is $10,000. Eris contract notional is $1,000,000.	Int	Base value for an Eris Contract	0
ProductCode	The first 6 characters in the instrument ID. This shows Tenor Bucket and a counter to differentiate between similar instruments.	String	NA	0

Column Heading	Description of Data	Data Format	Units	Decimal Places
TenorCategory	Denotes the initial tenor for the instrument.	String	Self-defining	0

Footnote:

[1] Contract value expressed on a 100 basis calculated by dividing contract value by 10,000

Our base futures price for a contract is $100, which is equivalent to $1,000,000 notional. A futures price of $101 (a 1 point move in price) is equivalent to $1,000,000 in notional per contract, and an A+B-C total value of $10,000 per contract. For the purposes of this file, a value of .5 is equivalent to $5000 per contract, and a value of .01 is equivalent to $100 per contract.

[2] Rate in %

This is the actual interest rate that was used in the calculation. So a value of .423 is actually a rate of .423%. A value of 1.5 would 1.5%.

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All matters pertaining to rules and specifications herein are made subject to and are superseded by official Eris Exchange, LLC rules. Current rules should be consulted in all cases concerning contract specifications.

Attachment 3

OIS Based Curve Methodology

Confidential Treatment Requested by Eris Exchange, LLC
Pursuant to 17 CFR 145.9

[See APPENDIX A for Attachment 3]

Attachment 4

Cash Flow Equivalence: Eris Exchange Interest Rate Swap Futures and Uncleared OTC Interest Rate Swaps

Eris Exchange
The Future of Swaps

Cash Flow Equivalence:

Eris Exchange Interest Rate Swap Futures and Un-cleared OTC Interest Rate Swaps

Eris Exchange interest rate swap futures contracts ("Eris contracts") replicate the cash flows of un-cleared OTC interest rate swaps[1] ("IRS"). The sensitivity to changes in swap rates (i.e., DV01) and the exposure to changes in LIBOR are the same for both instruments.

The cash flow equivalence between Eris contracts and IRS can be defined as:

Fixed/Floating Swap Payments (IRS) + Collateral (IRS) = Variation Margin (Eris contracts) [1]

Formula [1] can be analyzed and applied to daily and cumulative cash flows at all points in time over the life of the contracts. This paper will address both applications of the formula.

Note that there are 2 primary mechanical differences between Eris contracts and IRS:

1. Timing and Method of Cash Flows
    a. IRS: Known fixed and floating payment amounts are exchanged directly between the counterparties on Payment Dates throughout the life of the transaction. The NPV of projected future cash flows is exchanged between counterparties via the daily collateral process, according to the terms of the applicable Credit Support Annex[1]
    b. Eris contracts: All cash flows are exchanged between counterparties through variation margin via the daily mark-to-market process administered by the Clearing House. This valuation process incorporates past fixed and floating amounts and the NPV of projected future cash flows
2. Distinction between Collateral for IRS and Variation Margin for cleared derivatives including Eris contracts
    a. Collateral (IRS): Collateral posted under a bilateral Credit Support Annex belongs to the party posting the collateral; ownership does not transfer to the receiving party
    b. Variation Margin (Eris contracts): Variation margin for cleared transactions (including Eris contracts) legally belongs to the owner of the account where the variation margin resides, and can be withdrawn and reinvested at the owner's discretion

To focus the analysis, the following items are intentionally excluded from this discussion:

1. Interest paid on collateral in IRS and the equivalent calculation for Eris contracts, Eris Price Alignment Interest (Eris PAI™)
2. Initial Margin (Eris contracts) and Independent Amount (IRS)

[1] Un-cleared OTC interest rate swaps are assumed to be executed under an ISDA Master Agreement and Credit Support Annex with a $0 Threshold.

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Daily Net Cash flows are always equivalent between Eris contracts and IRS

Daily Fixed/Floating Swap Payments (IRS) + Daily Change in Collateral (IRS) =

Daily Change in Variation Margin (Eris contracts) [2]

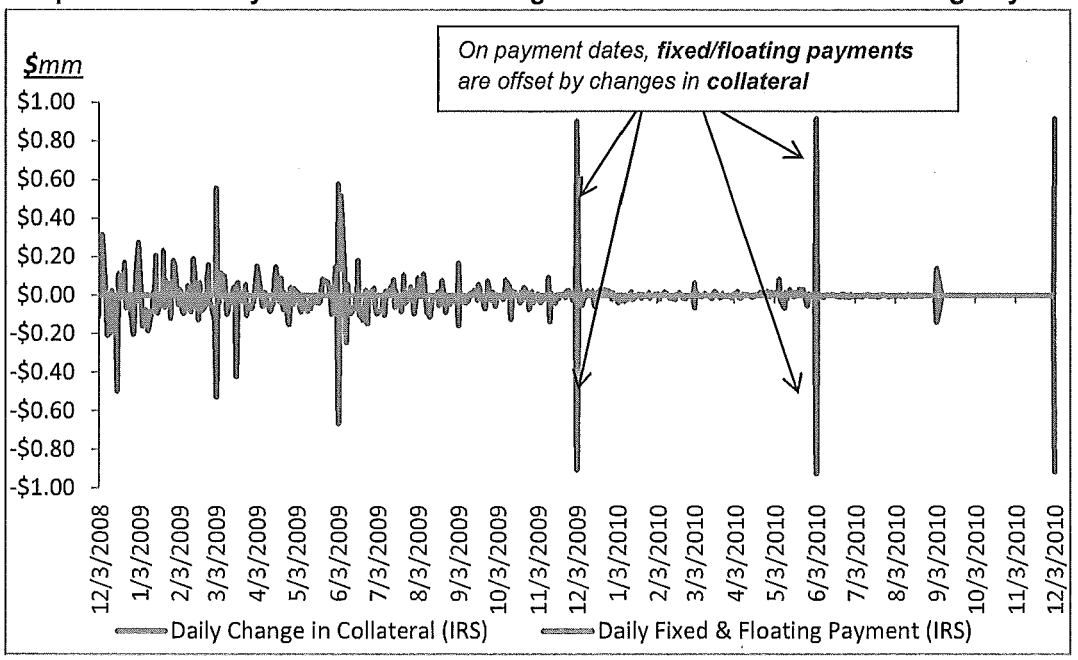
Fixed and floating swap payments made throughout the life of an IRS impact the NPV, but not the net cash flows of the swap, when movement of collateral is taken into account. For example, on a Payment Date in which a $2 swap payment is exchanged, the NPV of an IRS will change by $2, assuming swap rates are static that day. But the net cash flow on this Payment Date is zero, if collateral movement is included (see Graph #1 below).

Eris contracts track the total value of a swap from contract inception. The daily settlement value (or "settlement price") of Eris contracts will not change on Reset Dates, assuming swap rates are static on those days. The net fixed and floating amounts due on the Reset Date accrue rather than being paid between counterparties. Historical fixed and floating reset amounts will impact the value of the Eris contract at a fixed value without any further interest rate sensitivity.

This discussion includes results from a hypothetical 2 year Eris contract and an IRS executed in December of 2008, which are represented in a series of 3 graphs below and the Appendices. The graph results are shown from the perspective of the party paying fixed and receiving floating and are based on $100mm notional. This is equivalent to 100 Eris contracts.

Note: Y-axis values on all 3 graphs below are shown from the perspective of the party paying fixed. Negative Y- axis values represent payments made and positive Y-values represent payments received by the party paying fixed.

Graph #1: IRS Daily Cash Flow including Collateral and Fixed & Floating Payments

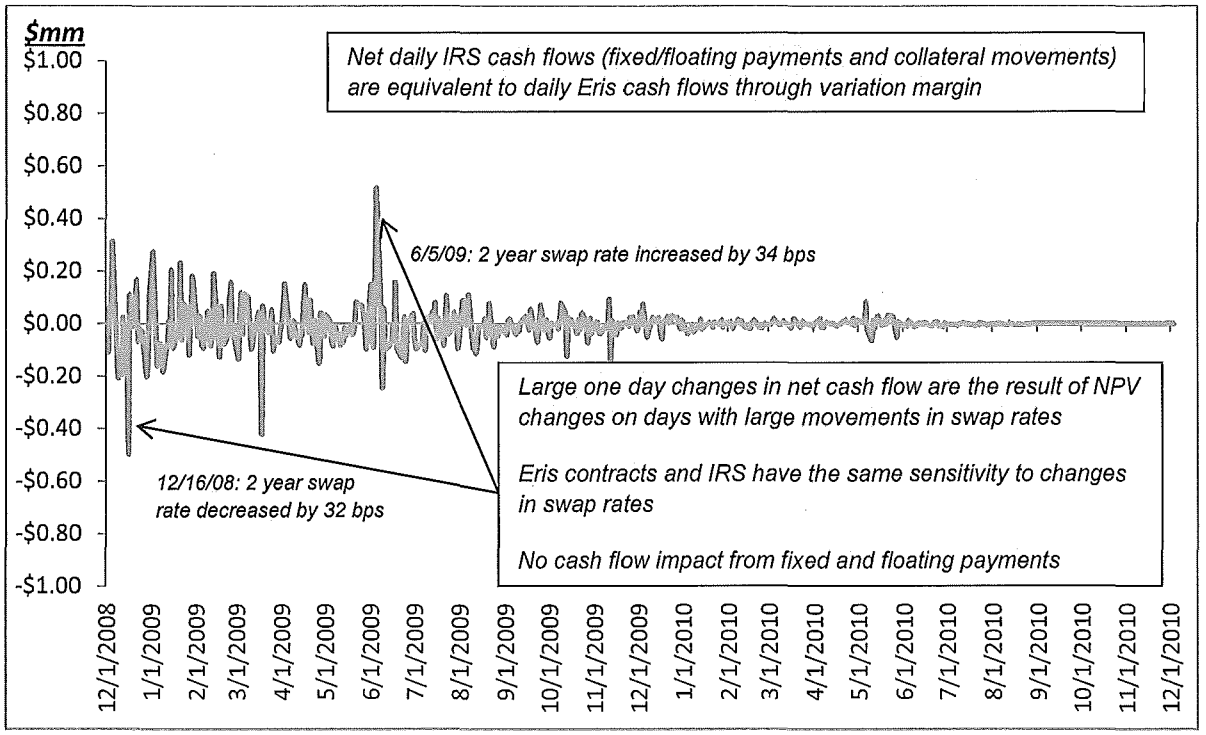


Graph #1 illustrates the daily cash flow on IRS which comes from:

1. Daily movements in collateral (blue line)
2. Fixed and floating swap payments (red line)

Collateral cash flows occur daily and swap payments occur once every 3 months. *On swap payment days (red line), there is an offsetting move in collateral of similar magnitude (blue line).*

Graph #2: IRS Net Daily Cash Flow including Collateral and Fixed & Floating Payments; also illustrates daily Eris cash flows which occur solely through variation margin



Graph #2 illustrates the cash flow on IRS which comes from movements in collateral and fixed and floating swap payments. This is equivalent to the cash flows shown in Graph #1. However, cash flows are shown with collateral and fixed and floating swap payments combined into a single value for each day.

Many of the spikes in Graph #1 do not appear in Graph #2 because swap payment dates no longer represent significant cash flow events, as offsetting cash flows between collateral and swap payments are netted.

As expected, the volatility of net cash flows decreases over time as the duration of the swap decreases. The remaining spikes in Graph #2 are the result of days with exceptional volatility. There were several days in late 2008 and 2009 in which rates moved by 30+ basis points.

Graph #2 also represents the cash flows on Eris contracts, which occur solely via daily variation margin. The *amount* of variation margin at any point in time is determined by the past fixed and floating amounts from trade inception plus the NPV of future fixed and floating amounts. However, *the daily change* in variation margin is only impacted by the change in the NPV of future fixed and floating amounts, with no further impact from past fixed and floating amounts.

As demonstrated above, the change in collateral (IRS) on a payment date is completely offset by the amount of the swap payment that occurs between parties, assuming static swap rates on the payment date. *When netting IRS collateral and swap payments, the change in IRS cash flow on payment dates (and all other days) is the same as for Eris contracts*.

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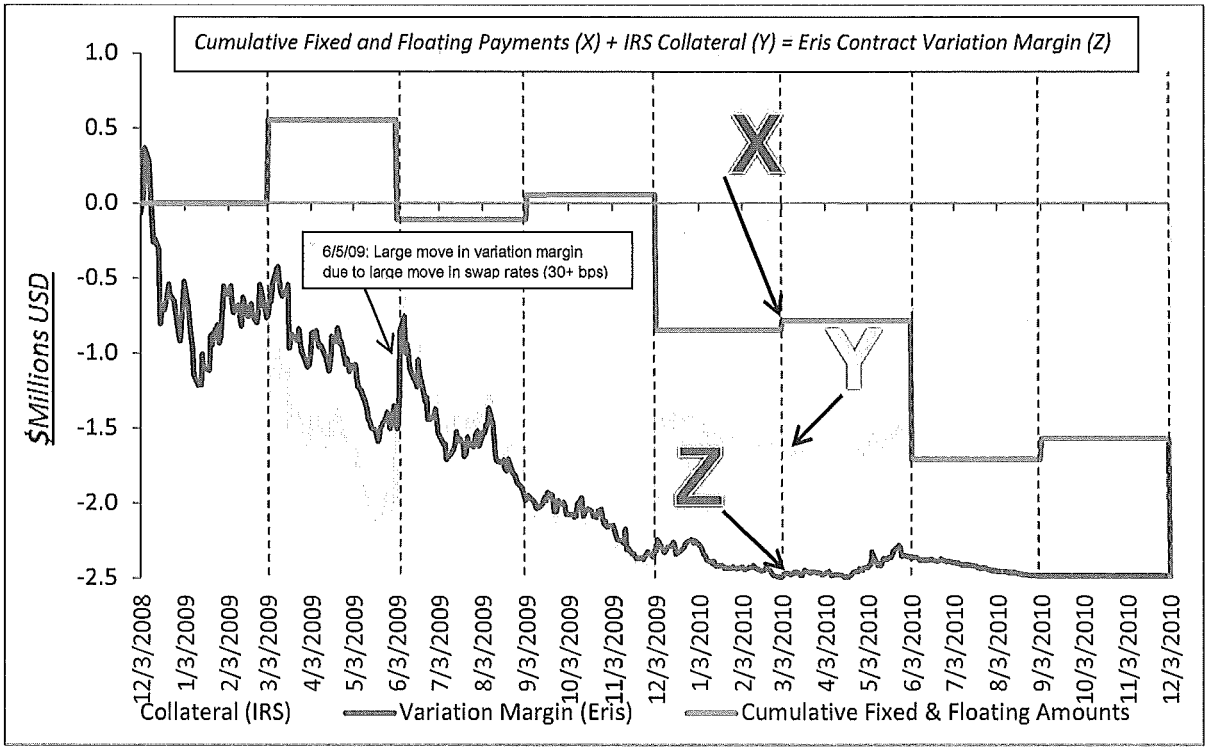
Cumulative Cash flows are always equivalent between Eris contracts and IRS

Cumulative Fixed/Floating Swap Payments (IRS) + Collateral (IRS) =

Variation Margin (Eris contracts) [3]

At all times over the life an Eris contract, the amount of variation margin differs from the collateral on account for an analogous IRS by the amount of past fixed and floating swap payment amounts. This is illustrated by the example in Graph #3 which shows the amount of collateral (yellow line) and variation margin (purple line) for each day over the life of the swap. The graph also shows the cumulative fixed and floating IRS payments (orange line). The orange line also represents the difference between the amount of collateral and variation margin.

Graph #3: Collateral (IRS), Cumulative Fixed and Floating Payments (IRS), and Variation Margin (Eris) over time



The graph highlights this relationship as of 3/3/2010:

(-$0.78mm) + (-$1.71mm) = -$2.49mm = X + Y = Z [4]

The fixed rate payer is indifferent between posting an extra $0.78mm of variation margin and making a swap payment of the same amount because same amount of cash has transferred from one party to the other at the same point(s) in time. The recipient of the cash is also indifferent between receiving money through variation margin and in the form of a separate swap payment (IRS). They are the owner of the funds in the variation margin account and they may withdraw it and re-invest at their discretion, as they may do with fixed and floating swap payments.

The vertical dashed lines represent fixed and floating swap payment dates (IRS). As you can observe on graph #3, collateral movements are extreme on these days and the change in the variation margin line is very small. Note however, that the variation margin line experienced a significant move close to the 6/3/09 IRS payment date. This was purely the result of a day in which swap rates experienced a significant move as the 2 year swap rate changed by approximately 34 basis points on 6/5/2009.

Conclusion

For trades that are fully collateralized or margined, fixed and floating swap amounts that are paid out to the counterparties or accrued until maturity result in the same cash flows and economic outcome for both parties. The difference between the amount of variation margin (Eris contract) and collateral (IRS) is equivalent to prior fixed and floating swap payments.

In addition, it is worth highlighting that this conclusion is not impacted by individual counterparty funding costs because the same cash flows occur at the same points in time on Eris contracts and IRS.

Appendix A: Examination of an IRS payment date

Cash flow equivalence between Eris contracts and IRS can also be analyzed by focusing on cash flow in the days immediately prior to, and following a fixed and/floating payment date.

Below is data from the days surrounding the second payment date of the 2 year contract above:

Date	Daily Fixed/Floating Payment (IRS)	Collateral Amount (IRS)	Daily Change in Collateral (IRS)	Daily Net IRS Cash Flow (Swap payment + Change in collateral)	Variation Margin Amount (Eris)	Daily Change Variation Margin (Eris contract)
6/2/09	$0.000	-$1.967			-$1.412	
6/3/09	-$0.666	-$1.391	$0.576	-$0.090	-$1.502	-$0.090
6/4/09	$0.000	-$1.255	$0.136	$0.136	-$1.366	$0.136

6/3/09 was a fixed and floating payment date. The change in variation margin for the Eris contract (-$0.09) was driven entirely by changes in the swap curve and was not impacted by the occurrence of a fixed and floating Reset Date.

The change in collateral for the IRS ($0.576) was determined by a combination of the net swap payment made by the fixed rate payer (-$0.666) and the change in the present value of future fixed and floating amounts resulting from changes in the swap curve (-$0.09). As you can observe from the highlighted cells in the table, the net cash flows for the IRS and Eris contract are the same.

The following day, 6/4/11, the changes in collateral and variation margin are equivalent ($0.136) and are determined solely by the change in the present value of future fixed and floating amounts resulting from changes in the swap curve.

In the case of the IRS and the Eris contract, the net cash flow impact on both parties is the same on both days. This relationship holds throughout the life of the contracts:

- 6/3/09: Fixed rate payer pays out $0.09
- 6/4/09: Fixed rate payer receives in $0.136

For the fixed rate receiver, the cash flow impact is the same as well. A dollar received in the form of a swap payment (IRS) is equivalent to a dollar of variation margin.

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Appendix B: Daily Cash Flow Table, Eris contract and IRS

	Daily IRS Cash Flow			*Daily Eris Contract Cash Flow*			
Date	Change in Collateral[2]	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin[3]	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
12/01/08	0.041	0.000	0.041	0.041	0.000	0.041	0.000
12/02/08	(0.108)	0.000	(0.108)	(0.108)	0.000	(0.108)	0.000
12/03/08	0.063	0.000	0.063	0.063	0.000	0.063	0.000
12/04/08	0.055	0.000	0.055	0.055	0.000	0.055	0.000
12/05/08	0.313	0.000	0.313	0.313	0.000	0.313	0.000
12/08/08	(0.086)	0.000	(0.086)	(0.086)	0.000	(0.086)	0.000
12/09/08	(0.206)	0.000	(0.206)	(0.206)	0.000	(0.206)	0.000
12/10/08	(0.137)	0.000	(0.137)	(0.137)	0.000	(0.137)	0.000
12/11/08	(0.194)	0.000	(0.194)	(0.194)	0.000	(0.194)	0.000
12/12/08	0.022	0.000	0.022	0.022	0.000	0.022	0.000
12/15/08	(0.069)	0.000	(0.069)	(0.069)	0.000	(0.069)	0.000
12/16/08	(0.496)	0.000	(0.496)	(0.496)	0.000	(0.496)	0.000
12/17/08	0.110	0.000	0.110	0.110	0.000	0.110	0.000
12/18/08	(0.007)	0.000	(0.007)	(0.007)	0.000	(0.007)	0.000
12/19/08	(0.011)	0.000	(0.011)	(0.011)	0.000	(0.011)	0.000
12/22/08	0.168	0.000	0.168	0.168	0.000	0.168	0.000
12/23/08	(0.065)	0.000	(0.065)	(0.065)	0.000	(0.065)	0.000
12/24/08	(0.017)	0.000	(0.017)	(0.017)	0.000	(0.017)	0.000
12/26/08	(0.028)	0.000	(0.028)	(0.028)	0.000	(0.028)	0.000
12/29/08	(0.201)	0.000	(0.201)	(0.201)	0.000	(0.201)	0.000
12/30/08	(0.063)	0.000	(0.063)	(0.063)	0.000	(0.063)	0.000

[2] This analysis does not include interest on collateral that may be required under the terms of the CSA
[3] This analysis does not include synthetic interest on variation margin known as Eris Price Alignment Interest, Eris PAI™

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Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
01/02/09	0.273	0.000	0.273	0.273	0.000	0.273	0.000
01/05/09	(0.160)	0.000	(0.160)	(0.160)	0.000	(0.160)	0.000
01/06/09	(0.126)	0.000	(0.126)	(0.126)	0.000	(0.126)	0.000
01/07/09	(0.076)	0.000	(0.076)	(0.076)	0.000	(0.076)	0.000
01/08/09	(0.080)	0.000	(0.080)	(0.080)	0.000	(0.080)	0.000
01/09/09	(0.182)	0.000	(0.182)	(0.182)	0.000	(0.182)	0.000
01/12/09	(0.069)	0.000	(0.069)	(0.069)	0.000	(0.069)	0.000
01/13/09	0.012	0.000	0.012	0.012	0.000	0.012	0.000
01/14/09	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
01/15/09	0.204	0.000	0.204	0.204	0.000	0.204	0.000
01/16/09	(0.091)	0.000	(0.091)	(0.091)	0.000	(0.091)	0.000
01/20/09	(0.014)	0.000	(0.014)	(0.014)	0.000	(0.014)	0.000
01/21/09	0.232	0.000	0.232	0.232	0.000	0.232	0.000
01/22/09	(0.060)	0.000	(0.060)	(0.060)	0.000	(0.060)	0.000
01/23/09	0.077	0.000	0.077	0.077	0.000	0.077	0.000
01/26/09	0.053	0.000	0.053	0.053	0.000	0.053	0.000
01/27/09	(0.118)	0.000	(0.118)	(0.118)	0.000	(0.118)	0.000
01/28/09	0.031	0.000	0.031	0.031	0.000	0.031	0.000
01/29/09	0.181	0.000	0.181	0.181	0.000	0.181	0.000
01/30/09	0.163	0.000	0.163	0.163	0.000	0.163	0.000
02/02/09	(0.048)	0.000	(0.048)	(0.048)	0.000	(0.048)	0.000
02/03/09	0.028	0.000	0.028	0.028	0.000	0.028	0.000
02/04/09	0.022	0.000	0.022	0.022	0.000	0.022	0.000
02/05/09	(0.082)	0.000	(0.082)	(0.082)	0.000	(0.082)	0.000
02/06/09	(0.092)	0.000	(0.092)	(0.092)	0.000	(0.092)	0.000
02/10/09	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
02/11/09	(0.083)	0.000	(0.083)	(0.083)	0.000	(0.083)	0.000
02/12/09	(0.053)	0.000	(0.053)	(0.053)	0.000	(0.053)	0.000

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Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
02/17/09	(0.126)	0.000	(0.126)	(0.126)	0.000	(0.126)	0.000
02/18/09	0.066	0.000	0.066	0.066	0.000	0.066	0.000
02/19/09	0.016	0.000	0.016	0.016	0.000	0.016	0.000
02/20/09	(0.078)	0.000	(0.078)	(0.078)	0.000	(0.078)	0.000
02/23/09	(0.045)	0.000	(0.045)	(0.045)	0.000	(0.045)	0.000
02/24/09	0.094	0.000	0.094	0.094	0.000	0.094	0.000
02/25/09	0.156	0.000	0.156	0.156	0.000	0.156	0.000
02/26/09	(0.035)	0.000	(0.035)	(0.035)	0.000	(0.035)	0.000
02/27/09	(0.048)	0.000	(0.048)	(0.048)	0.000	(0.048)	0.000
03/02/09	(0.133)	0.000	(0.133)	(0.133)	0.000	(0.133)	0.000
03/03/09	(0.525)	0.555	0.030	0.030	0.000	0.030	0.000
03/04/09	0.117	0.000	0.117	0.117	0.000	0.117	0.000
03/05/09	(0.038)	0.000	(0.038)	(0.038)	0.000	(0.038)	0.000
03/06/09	0.115	0.000	0.115	0.115	0.000	0.115	0.000
03/09/09	0.101	0.000	0.101	0.101	0.000	0.101	0.000
03/10/09	0.012	0.000	0.012	0.012	0.000	0.012	0.000
03/11/09	(0.096)	0.000	(0.096)	(0.096)	0.000	(0.096)	0.000
03/12/09	(0.067)	0.000	(0.067)	(0.067)	0.000	(0.067)	0.000
03/13/09	(0.029)	0.000	(0.029)	(0.029)	0.000	(0.029)	0.000
03/16/09	0.042	0.000	0.042	0.042	0.000	0.042	0.000
03/17/09	0.032	0.000	0.032	0.032	0.000	0.032	0.000
03/19/09	0.065	0.000	0.065	0.065	0.000	0.065	0.000
03/20/09	0.021	0.000	0.021	0.021	0.000	0.021	0.000
03/23/09	(0.034)	0.000	(0.034)	(0.034)	0.000	(0.034)	0.000
03/24/09	0.017	0.000	0.017	0.017	0.000	0.017	0.000
03/25/09	0.053	0.000	0.053	0.053	0.000	0.053	0.000
03/26/09	(0.102)	0.000	(0.102)	(0.102)	0.000	(0.102)	0.000
03/27/09	(0.047)	0.000	(0.047)	(0.047)	0.000	(0.047)	0.000

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Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
03/31/09	(0.029)	0.000	(0.029)	(0.029)	0.000	(0.029)	0.000
04/01/09	0.007	0.000	0.007	0.007	0.000	0.007	0.000
04/02/09	0.067	0.000	0.067	0.067	0.000	0.067	0.000
04/03/09	0.150	0.000	0.150	0.150	0.000	0.150	0.000
04/06/09	0.011	0.000	0.011	0.011	0.000	0.011	0.000
04/07/09	(0.054)	0.000	(0.054)	(0.054)	0.000	(0.054)	0.000
04/08/09	(0.051)	0.000	(0.051)	(0.051)	0.000	(0.051)	0.000
04/09/09	0.012	0.000	0.012	0.012	0.000	0.012	0.000
04/13/09	(0.081)	0.000	(0.081)	(0.081)	0.000	(0.081)	0.000
04/14/09	(0.046)	0.000	(0.046)	(0.046)	0.000	(0.046)	0.000
04/15/09	(0.045)	0.000	(0.045)	(0.045)	0.000	(0.045)	0.000
04/16/09	0.084	0.000	0.084	0.084	0.000	0.084	0.000
04/17/09	0.147	0.000	0.147	0.147	0.000	0.147	0.000
04/20/09	(0.034)	0.000	(0.034)	(0.034)	0.000	(0.034)	0.000
04/21/09	0.088	0.000	0.088	0.088	0.000	0.088	0.000
04/22/09	(0.028)	0.000	(0.028)	(0.028)	0.000	(0.028)	0.000
04/23/09	(0.074)	0.000	(0.074)	(0.074)	0.000	(0.074)	0.000
04/27/09	(0.150)	0.000	(0.150)	(0.150)	0.000	(0.150)	0.000
04/28/09	0.039	0.000	0.039	0.039	0.000	0.039	0.000
04/29/09	(0.040)	0.000	(0.040)	(0.040)	0.000	(0.040)	0.000
04/30/09	(0.046)	0.000	(0.046)	(0.046)	0.000	(0.046)	0.000
05/01/09	0.034	0.000	0.034	0.034	0.000	0.034	0.000
05/04/09	0.011	0.000	0.011	0.011	0.000	0.011	0.000
05/05/09	(0.064)	0.000	(0.064)	(0.064)	0.000	(0.064)	0.000
05/06/09	(0.085)	0.000	(0.085)	(0.085)	0.000	(0.085)	0.000
05/07/09	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
05/08/09	(0.015)	0.000	(0.015)	(0.015)	0.000	(0.015)	0.000
05/11/09	(0.081)	0.000	(0.081)	(0.081)	0.000	(0.081)	0.000

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Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
05/13/09	(0.070)	0.000	(0.070)	(0.070)	0.000	(0.070)	0.000
05/14/09	(0.016)	0.000	(0.016)	(0.016)	0.000	(0.016)	0.000
05/15/09	(0.043)	0.000	(0.043)	(0.043)	0.000	(0.043)	0.000
05/18/09	(0.011)	0.000	(0.011)	(0.011)	0.000	(0.011)	0.000
05/19/09	(0.040)	0.000	(0.040)	(0.040)	0.000	(0.040)	0.000
05/20/09	(0.036)	0.000	(0.036)	(0.036)	0.000	(0.036)	0.000
05/21/09	0.007	0.000	0.007	0.007	0.000	0.007	0.000
05/22/09	0.081	0.000	0.081	0.081	0.000	0.081	0.000
05/26/09	0.067	0.000	0.067	0.067	0.000	0.067	0.000
05/27/09	0.036	0.000	0.036	0.036	0.000	0.036	0.000
05/28/09	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
05/29/09	(0.096)	0.000	(0.096)	(0.096)	0.000	(0.096)	0.000
06/01/09	0.148	0.000	0.148	0.148	0.000	0.148	0.000
06/03/09	0.576	(0.665)	(0.089)	(0.089)	0.000	(0.089)	0.000
06/04/09	0.136	0.000	0.136	0.136	0.000	0.136	0.000
06/05/09	0.515	0.000	0.515	0.515	0.000	0.515	0.000
06/08/09	0.098	0.000	0.098	0.098	0.000	0.098	0.000
06/09/09	(0.244)	0.000	(0.244)	(0.244)	0.000	(0.244)	0.000
06/10/09	0.058	0.000	0.058	0.058	0.000	0.058	0.000
06/11/09	(0.068)	0.000	(0.068)	(0.068)	0.000	(0.068)	0.000
06/12/09	(0.095)	0.000	(0.095)	(0.095)	0.000	(0.095)	0.000
06/15/09	(0.070)	0.000	(0.070)	(0.070)	0.000	(0.070)	0.000
06/16/09	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
06/17/09	(0.041)	0.000	(0.041)	(0.041)	0.000	(0.041)	0.000
06/18/09	0.178	0.000	0.178	0.178	0.000	0.178	0.000
06/19/09	(0.095)	0.000	(0.095)	(0.095)	0.000	(0.095)	0.000
06/22/09	(0.129)	0.000	(0.129)	(0.129)	0.000	(0.129)	0.000
06/23/09	(0.054)	0.000	(0.054)	(0.054)	0.000	(0.054)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
06/25/09	(0.143)	0.000	(0.143)	(0.143)	0.000	(0.143)	0.000
06/26/09	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
06/29/09	0.029	0.000	0.029	0.029	0.000	0.029	0.000
06/30/09	0.036	0.000	0.036	0.036	0.000	0.036	0.000
07/01/09	(0.066)	0.000	(0.066)	(0.066)	0.000	(0.066)	0.000
07/02/09	(0.094)	0.000	(0.094)	(0.094)	0.000	(0.094)	0.000
07/06/09	(0.072)	0.000	(0.072)	(0.072)	0.000	(0.072)	0.000
07/07/09	0.001	0.000	0.001	0.001	0.000	0.001	0.000
07/08/09	(0.100)	0.000	(0.100)	(0.100)	0.000	(0.100)	0.000
07/10/09	0.000	0.000	0.000	0.000	0.000	0.000	0.000
07/13/09	0.041	0.000	0.041	0.041	0.000	0.041	0.000
07/14/09	0.038	0.000	0.038	0.038	0.000	0.038	0.000
07/15/09	0.080	0.000	0.080	0.080	0.000	0.080	0.000
07/16/09	(0.059)	0.000	(0.059)	(0.059)	0.000	(0.059)	0.000
07/17/09	0.023	0.000	0.023	0.023	0.000	0.023	0.000
07/20/09	(0.044)	0.000	(0.044)	(0.044)	0.000	(0.044)	0.000
07/21/09	(0.083)	0.000	(0.083)	(0.083)	0.000	(0.083)	0.000
07/22/09	0.024	0.000	0.024	0.024	0.000	0.024	0.000
07/23/09	0.105	0.000	0.105	0.105	0.000	0.105	0.000
07/24/09	(0.039)	0.000	(0.039)	(0.039)	0.000	(0.039)	0.000
07/27/09	(0.021)	0.000	(0.021)	(0.021)	0.000	(0.021)	0.000
07/28/09	0.044	0.000	0.044	0.044	0.000	0.044	0.000
07/29/09	0.033	0.000	0.033	0.033	0.000	0.033	0.000
07/30/09	0.021	0.000	0.021	0.021	0.000	0.021	0.000
07/31/09	(0.094)	0.000	(0.094)	(0.094)	0.000	(0.094)	0.000
08/03/09	0.088	0.000	0.088	0.088	0.000	0.088	0.000
08/04/09	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
08/05/09	0.055	0.000	0.055	0.055	0.000	0.055	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
08/07/09	0.110	0.000	0.110	0.110	0.000	0.110	0.000
08/10/09	(0.091)	0.000	(0.091)	(0.091)	0.000	(0.091)	0.000
08/11/09	(0.095)	0.000	(0.095)	(0.095)	0.000	(0.095)	0.000
08/12/09	(0.112)	0.000	(0.112)	(0.112)	0.000	(0.112)	0.000
08/13/09	(0.050)	0.000	(0.050)	(0.050)	0.000	(0.050)	0.000
08/17/09	(0.008)	0.000	(0.008)	(0.008)	0.000	(0.008)	0.000
08/18/09	0.018	0.000	0.018	0.018	0.000	0.018	0.000
08/19/09	(0.051)	0.000	(0.051)	(0.051)	0.000	(0.051)	0.000
08/20/09	(0.020)	0.000	(0.020)	(0.020)	0.000	(0.020)	0.000
08/21/09	0.077	0.000	0.077	0.077	0.000	0.077	0.000
08/24/09	(0.087)	0.000	(0.087)	(0.087)	0.000	(0.087)	0.000
08/25/09	(0.012)	0.000	(0.012)	(0.012)	0.000	(0.012)	0.000
08/26/09	(0.009)	0.000	(0.009)	(0.009)	0.000	(0.009)	0.000
08/27/09	(0.045)	0.000	(0.045)	(0.045)	0.000	(0.045)	0.000
08/28/09	(0.012)	0.000	(0.012)	(0.012)	0.000	(0.012)	0.000
08/31/09	(0.032)	0.000	(0.032)	(0.032)	0.000	(0.032)	0.000
09/01/09	(0.032)	0.000	(0.032)	(0.032)	0.000	(0.032)	0.000
09/02/09	(0.041)	0.000	(0.041)	(0.041)	0.000	(0.041)	0.000
09/03/09	(0.157)	0.166	0.010	0.010	0.000	0.010	0.000
09/04/09	0.018	0.000	0.018	0.018	0.000	0.018	0.000
09/08/09	(0.038)	0.000	(0.038)	(0.038)	0.000	(0.038)	0.000
09/09/09	(0.015)	0.000	(0.015)	(0.015)	0.000	(0.015)	0.000
09/10/09	(0.029)	0.000	(0.029)	(0.029)	0.000	(0.029)	0.000
09/11/09	0.003	0.000	0.003	0.003	0.000	0.003	0.000
09/14/09	0.021	0.000	0.021	0.021	0.000	0.021	0.000
09/15/09	0.027	0.000	0.027	0.027	0.000	0.027	0.000
09/16/09	0.022	0.000	0.022	0.022	0.000	0.022	0.000
09/17/09	(0.023)	0.000	(0.023)	(0.023)	0.000	(0.023)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
09/21/09	(0.018)	0.000	(0.018)	(0.018)	0.000	(0.018)	0.000
09/23/09	(0.069)	0.000	(0.069)	(0.069)	0.000	(0.069)	0.000
09/24/09	0.003	0.000	0.003	0.003	0.000	0.003	0.000
09/25/09	0.071	0.000	0.071	0.071	0.000	0.071	0.000
09/28/09	(0.024)	0.000	(0.024)	(0.024)	0.000	(0.024)	0.000
09/29/09	0.014	0.000	0.014	0.014	0.000	0.014	0.000
09/30/09	(0.027)	0.000	(0.027)	(0.027)	0.000	(0.027)	0.000
10/01/09	(0.054)	0.000	(0.054)	(0.054)	0.000	(0.054)	0.000
10/02/09	0.001	0.000	0.001	0.001	0.000	0.001	0.000
10/05/09	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
10/06/09	0.002	0.000	0.002	0.002	0.000	0.002	0.000
10/07/09	(0.018)	0.000	(0.018)	(0.018)	0.000	(0.018)	0.000
10/08/09	0.006	0.000	0.006	0.006	0.000	0.006	0.000
10/09/09	0.079	0.000	0.079	0.079	0.000	0.079	0.000
10/12/09	0.044	0.000	0.044	0.044	0.000	0.044	0.000
10/13/09	(0.122)	0.000	(0.122)	(0.122)	0.000	(0.122)	0.000
10/14/09	0.023	0.000	0.023	0.023	0.000	0.023	0.000
10/15/09	0.012	0.000	0.012	0.012	0.000	0.012	0.000
10/16/09	0.016	0.000	0.016	0.016	0.000	0.016	0.000
10/19/09	(0.017)	0.000	(0.017)	(0.017)	0.000	(0.017)	0.000
10/20/09	(0.036)	0.000	(0.036)	(0.036)	0.000	(0.036)	0.000
10/21/09	0.016	0.000	0.016	0.016	0.000	0.016	0.000
10/22/09	(0.021)	0.000	(0.021)	(0.021)	0.000	(0.021)	0.000
10/23/09	0.040	0.000	0.040	0.040	0.000	0.040	0.000
10/26/09	0.013	0.000	0.013	0.013	0.000	0.013	0.000
10/27/09	(0.071)	0.000	(0.071)	(0.071)	0.000	(0.071)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
10/29/09	0.020	0.000	0.020	0.020	0.000	0.020	0.000
10/30/09	(0.037)	0.000	(0.037)	(0.037)	0.000	(0.037)	0.000
11/02/09	0.007	0.000	0.007	0.007	0.000	0.007	0.000
11/03/09	0.005	0.000	0.005	0.005	0.000	0.005	0.000
11/04/09	(0.030)	0.000	(0.030)	(0.030)	0.000	(0.030)	0.000
11/05/09	(0.037)	0.000	(0.037)	(0.037)	0.000	(0.037)	0.000
11/06/09	(0.029)	0.000	(0.029)	(0.029)	0.000	(0.029)	0.000
11/09/09	(0.006)	0.000	(0.006)	(0.006)	0.000	(0.006)	0.000
11/10/09	(0.018)	0.000	(0.018)	(0.018)	0.000	(0.018)	0.000
11/11/09	0.092	0.000	0.092	0.092	0.000	0.092	0.000
11/12/09	(0.134)	0.000	(0.134)	(0.134)	0.000	(0.134)	0.000
11/13/09	0.011	0.000	0.011	0.011	0.000	0.011	0.000
11/16/09	(0.041)	0.000	(0.041)	(0.041)	0.000	(0.041)	0.000
11/17/09	0.002	0.000	0.002	0.002	0.000	0.002	0.000
11/18/09	(0.017)	0.000	(0.017)	(0.017)	0.000	(0.017)	0.000
11/19/09	(0.016)	0.000	(0.016)	(0.016)	0.000	(0.016)	0.000
11/20/09	0.001	0.000	0.001	0.001	0.000	0.001	0.000
11/23/09	0.004	0.000	0.004	0.004	0.000	0.004	0.000
11/24/09	(0.009)	0.000	(0.009)	(0.009)	0.000	(0.009)	0.000
11/25/09	0.022	0.000	0.022	0.022	0.000	0.022	0.000
11/27/09	0.025	0.000	0.025	0.025	0.000	0.025	0.000
11/30/09	(0.026)	0.000	(0.026)	(0.026)	0.000	(0.026)	0.000
12/01/09	(0.006)	0.000	(0.006)	(0.006)	0.000	(0.006)	0.000
12/02/09	0.044	0.000	0.044	0.044	0.000	0.044	0.000
12/03/09	0.901	(0.904)	(0.003)	(0.003)	0.000	(0.003)	0.000
12/07/09	(0.051)	0.000	(0.051)	(0.051)	0.000	(0.051)	0.000
12/08/09	(0.022)	0.000	(0.022)	(0.022)	0.000	(0.022)	0.000
12/09/09	(0.011)	0.000	(0.011)	(0.011)	0.000	(0.011)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
12/11/09	0.022	0.000	0.022	0.022	0.000	0.022	0.000
12/14/09	0.010	0.000	0.010	0.010	0.000	0.010	0.000
12/15/09	0.022	0.000	0.022	0.022	0.000	0.022	0.000
12/16/09	(0.024)	0.000	(0.024)	(0.024)	0.000	(0.024)	0.000
12/17/09	(0.057)	0.000	(0.057)	(0.057)	0.000	(0.057)	0.000
12/18/09	0.006	0.000	0.006	0.006	0.000	0.006	0.000
12/21/09	0.027	0.000	0.027	0.027	0.000	0.027	0.000
12/22/09	0.004	0.000	0.004	0.004	0.000	0.004	0.000
12/23/09	0.008	0.000	0.008	0.008	0.000	0.008	0.000
12/24/09	0.029	0.000	0.029	0.029	0.000	0.029	0.000
12/28/09	0.023	0.000	0.023	0.023	0.000	0.023	0.000
12/29/09	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
12/30/09	(0.019)	0.000	(0.019)	(0.019)	0.000	(0.019)	0.000
12/31/09	0.013	0.000	0.013	0.013	0.000	0.013	0.000
01/04/10	(0.037)	0.000	(0.037)	(0.037)	0.000	(0.037)	0.000
01/05/10	(0.027)	0.000	(0.027)	(0.027)	0.000	(0.027)	0.000
01/06/10	(0.029)	0.000	(0.029)	(0.029)	0.000	(0.029)	0.000
01/07/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
01/08/10	(0.031)	0.000	(0.031)	(0.031)	0.000	(0.031)	0.000
01/11/10	(0.012)	0.000	(0.012)	(0.012)	0.000	(0.012)	0.000
01/12/10	(0.012)	0.000	(0.012)	(0.012)	0.000	(0.012)	0.000
01/14/10	(0.021)	0.000	(0.021)	(0.021)	0.000	(0.021)	0.000
01/15/10	(0.013)	0.000	(0.013)	(0.013)	0.000	(0.013)	0.000
01/19/10	0.004	0.000	0.004	0.004	0.000	0.004	0.000
01/20/10	(0.006)	0.000	(0.006)	(0.006)	0.000	(0.006)	0.000
01/21/10	(0.013)	0.000	(0.013)	(0.013)	0.000	(0.013)	0.000
01/22/10	0.003	0.000	0.003	0.003	0.000	0.003	0.000
01/25/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
01/27/10	0.014	0.000	0.014	0.014	0.000	0.014	0.000
01/28/10	(0.013)	0.000	(0.013)	(0.013)	0.000	(0.013)	0.000
01/29/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
02/01/10	0.005	0.000	0.005	0.005	0.000	0.005	0.000
02/02/10	0.002	0.000	0.002	0.002	0.000	0.002	0.000
02/03/10	0.007	0.000	0.007	0.007	0.000	0.007	0.000
02/04/10	(0.017)	0.000	(0.017)	(0.017)	0.000	(0.017)	0.000
02/05/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
02/08/10	0.016	0.000	0.016	0.016	0.000	0.016	0.000
02/09/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
02/10/10	0.009	0.000	0.009	0.009	0.000	0.009	0.000
02/11/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
02/12/10	(0.011)	0.000	(0.011)	(0.011)	0.000	(0.011)	0.000
02/16/10	(0.019)	0.000	(0.019)	(0.019)	0.000	(0.019)	0.000
02/17/10	0.003	0.000	0.003	0.003	0.000	0.003	0.000
02/18/10	0.002	0.000	0.002	0.002	0.000	0.002	0.000
02/19/10	0.013	0.000	0.013	0.013	0.000	0.013	0.000
02/23/10	(0.014)	0.000	(0.014)	(0.014)	0.000	(0.014)	0.000
02/24/10	(0.015)	0.000	(0.015)	(0.015)	0.000	(0.015)	0.000
02/25/10	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
02/26/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
03/01/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
03/02/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
03/03/10	(0.062)	0.064	0.002	0.002	0.000	0.002	0.000
03/04/10	0.018	0.000	0.018	0.018	0.000	0.018	0.000
03/05/10	0.008	0.000	0.008	0.008	0.000	0.008	0.000
03/08/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
03/09/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
03/11/10	0.008	0.000	0.008	0.008	0.000	0.008	0.000
03/12/10	0.004	0.000	0.004	0.004	0.000	0.004	0.000
03/15/10	(0.007)	0.000	(0.007)	(0.007)	0.000	(0.007)	0.000
03/16/10	(0.015)	0.000	(0.015)	(0.015)	0.000	(0.015)	0.000
03/17/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
03/18/10	0.019	0.000	0.019	0.019	0.000	0.019	0.000
03/19/10	0.016	0.000	0.016	0.016	0.000	0.016	0.000
03/22/10	(0.012)	0.000	(0.012)	(0.012)	0.000	(0.012)	0.000
03/23/10	(0.007)	0.000	(0.007)	(0.007)	0.000	(0.007)	0.000
03/24/10	0.009	0.000	0.009	0.009	0.000	0.009	0.000
03/25/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
03/26/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
03/29/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
03/31/10	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
04/01/10	0.001	0.000	0.001	0.001	0.000	0.001	0.000
04/05/10	0.019	0.000	0.019	0.019	0.000	0.019	0.000
04/06/10	(0.012)	0.000	(0.012)	(0.012)	0.000	(0.012)	0.000
04/07/10	(0.013)	0.000	(0.013)	(0.013)	0.000	(0.013)	0.000
04/08/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
04/09/10	0.005	0.000	0.005	0.005	0.000	0.005	0.000
04/12/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
04/13/10	0.001	0.000	0.001	0.001	0.000	0.001	0.000
04/14/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
04/15/10	(0.006)	0.000	(0.006)	(0.006)	0.000	(0.006)	0.000
04/16/10	(0.008)	0.000	(0.008)	(0.008)	0.000	(0.008)	0.000
04/19/10	0.001	0.000	0.001	0.001	0.000	0.001	0.000
04/20/10	0.004	0.000	0.004	0.004	0.000	0.004	0.000
04/21/10	0.008	0.000	0.008	0.008	0.000	0.008	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
04/23/10	0.007	0.000	0.007	0.007	0.000	0.007	0.000
04/26/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
04/27/10	0.021	0.000	0.021	0.021	0.000	0.021	0.000
04/28/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
04/29/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
04/30/10	0.014	0.000	0.014	0.014	0.000	0.014	0.000
05/03/10	0.006	0.000	0.006	0.006	0.000	0.006	0.000
05/04/10	0.014	0.000	0.014	0.014	0.000	0.014	0.000
05/05/10	0.004	0.000	0.004	0.004	0.000	0.004	0.000
05/07/10	(0.025)	0.000	(0.025)	(0.025)	0.000	(0.025)	0.000
05/10/10	(0.063)	0.000	(0.063)	(0.063)	0.000	(0.063)	0.000
05/11/10	0.014	0.000	0.014	0.014	0.000	0.014	0.000
05/12/10	(0.015)	0.000	(0.015)	(0.015)	0.000	(0.015)	0.000
05/13/10	0.020	0.000	0.020	0.020	0.000	0.020	0.000
05/14/10	0.029	0.000	0.029	0.029	0.000	0.029	0.000
05/17/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
05/18/10	0.013	0.000	0.013	0.013	0.000	0.013	0.000
05/19/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
05/20/10	0.011	0.000	0.011	0.011	0.000	0.011	0.000
05/21/10	0.031	0.000	0.031	0.031	0.000	0.031	0.000
05/24/10	0.029	0.000	0.029	0.029	0.000	0.029	0.000
05/25/10	0.008	0.000	0.008	0.008	0.000	0.008	0.000
05/26/10	(0.017)	0.000	(0.017)	(0.017)	0.000	(0.017)	0.000
05/27/10	(0.053)	0.000	(0.053)	(0.053)	0.000	(0.053)	0.000
05/28/10	0.006	0.000	0.006	0.006	0.000	0.006	0.000
06/01/10	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
06/02/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
06/03/10	0.915	(0.924)	(0.009)	(0.009)	0.000	(0.009)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
06/07/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
06/08/10	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
06/09/10	(0.009)	0.000	(0.009)	(0.009)	0.000	(0.009)	0.000
06/10/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
06/11/10	0.002	0.000	0.002	0.002	0.000	0.002	0.000
06/15/10	0.004	0.000	0.004	0.004	0.000	0.004	0.000
06/16/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
06/17/10	0.001	0.000	0.001	0.001	0.000	0.001	0.000
06/18/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
06/21/10	(0.008)	0.000	(0.008)	(0.008)	0.000	(0.008)	0.000
06/22/10	0.004	0.000	0.004	0.004	0.000	0.004	0.000
06/23/10	0.005	0.000	0.005	0.005	0.000	0.005	0.000
06/24/10	0.005	0.000	0.005	0.005	0.000	0.005	0.000
06/25/10	(0.008)	0.000	(0.008)	(0.008)	0.000	(0.008)	0.000
06/28/10	(0.010)	0.000	(0.010)	(0.010)	0.000	(0.010)	0.000
06/29/10	0.003	0.000	0.003	0.003	0.000	0.003	0.000
06/30/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
07/01/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
07/02/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
07/06/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
07/07/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
07/08/10	(0.006)	0.000	(0.006)	(0.006)	0.000	(0.006)	0.000
07/09/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
07/12/10	0.003	0.000	0.003	0.003	0.000	0.003	0.000
07/13/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
07/14/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
07/15/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
07/16/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
07/20/10	(0.007)	0.000	(0.007)	(0.007)	0.000	(0.007)	0.000
07/22/10	(0.005)	0.000	(0.005)	(0.005)	0.000	(0.005)	0.000
07/23/10	0.002	0.000	0.002	0.002	0.000	0.002	0.000
07/26/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
07/27/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
07/28/10	(0.006)	0.000	(0.006)	(0.006)	0.000	(0.006)	0.000
07/29/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
07/30/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
08/02/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
08/03/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
08/04/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
08/05/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
08/06/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
08/09/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
08/10/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
08/11/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
08/12/10	0.003	0.000	0.003	0.003	0.000	0.003	0.000
08/13/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
08/16/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
08/17/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
08/18/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
08/19/10	(0.002)	0.000	(0.002)	(0.002)	0.000	(0.002)	0.000
08/20/10	(0.003)	0.000	(0.003)	(0.003)	0.000	(0.003)	0.000
08/23/10	(0.004)	0.000	(0.004)	(0.004)	0.000	(0.004)	0.000
08/24/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
08/25/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
08/27/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
08/30/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
08/31/10	(0.001)	0.000	(0.001)	(0.001)	0.000	(0.001)	0.000
09/01/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/02/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/03/10	(0.137)	0.137	0.000	0.000	0.000	0.000	0.000
09/07/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/08/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
09/09/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/10/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
09/13/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/14/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/15/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
09/16/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/17/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
09/20/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/21/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/22/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/23/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/24/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/27/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/28/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/29/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
09/30/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/01/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/05/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/06/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/07/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
10/11/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/12/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/13/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/14/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/15/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/18/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/19/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/20/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/21/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/22/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/25/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/26/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/27/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/28/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
10/29/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/01/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/02/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/03/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11/04/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/05/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/08/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/10/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/11/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/12/10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11/15/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/16/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/17/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/18/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000

Eris Exchange
The Future of Swaps

Date	Change in Collateral	Net Fixed and Floating Payment	Net Cash Flow	Change in Variation Margin	Net Fixed and Floating Payment	Net Cash Flow	Daily IRS vs Eris contract Cash Flows
11/22/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/23/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/24/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/26/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/29/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
11/30/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
12/01/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
12/02/10	(0.000)	0.000	(0.000)	(0.000)	0.000	(0.000)	0.000
12/03/10	0.914	(0.914)	(0.000)	(0.000)	0.000	(0.000)	0.000

The information within this document has been compiled by Eris Exchange for general purposes only. Eris Exchange assumes no responsibility for any errors or omissions. Although every attempt has been made to ensure the accuracy of the information within this document, Eris Exchange assumes no responsibility for any errors or omissions. Additionally, all examples in this document are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience. The information contained in this document does not constitute legal or investment advice.

All matters pertaining to rules and specifications herein are made subject to and are superseded by official Eris Exchange, LLC rules. Current rules should be consulted in all cases concerning contract specifications.

APPENDIX A

Confidential Treatment Requested by Eris Exchange, LLC
Pursuant to 17 CFR 145.9

Eris Exchange

CONFIDENTIAL TREATMENT REQUESTED

November 1, 2011

Via Email: FOIAsubmissions@cftc.gov

CFTC FOIA Compliance Office
U.S. Commodity Futures Trading Commission
1155 21st Street, N.W.
Washington, DC 20581

Re: FOIA Confidentiality Treatment Request

Dear CFTC FOIA Compliance Officer:

Pursuant to Regulation Section 145.9, the Eris Exchange, LLC (the "Exchange"), hereby petitions the Commodity Futures Trading Commission (the "Commission") that:

Appendix A (Attachment 3, OIS Based Curve Methodology) to the Eris Exchange, LLC Certification of Eris Exchange Interest Rate Swap Futures Product dated November 1, 2011 be accepted and retained in confidence by the Commission. The Exchange requests that the Confidential Information be retained in confidence until further notice as against any requestor who files with the Commission a request to inspect such information pursuant to the Freedom of Information Act ("FOIA").

The basis for this petition for confidential treatment is Regulation Section 145.9(d)(1)(ii), in that such information contains trade secrets and confidential commercial information. I understand that this petition will not be evaluated by the Commission unless and until a FOIA request has been filed for inspection of this subject matter. In that event or if you have questions, please contact me at 312-626-2681 or stephen.humenik@erisfutures.com.

Sincerely,

Stephen M. Humenik
General Counsel and Chief Regulatory Officer

cc: David Stawick, Secretary