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Mr. Richard Shilts
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Three Lafayette Centre
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Washington, D.C. 20581

Re: Response to March 1, 2005 Questions

Dear Mr. Shilts:

We write on behalf of LIFFE Administration and Management ("LIFFE") in response to the follow up questions posed in your March 1, 2005 e-mail regarding our November 19, 2004 submission (the "November Submission").[1] We hope that this additional information will help you determine that the relevant market within which to analyze the Interpretation's competitive impact is indeed the Eurodollar Futures Market and that the Interpretation unreasonably restrains trade in that market in contravention of Core Principle 18. Our specific responses are as follows:

1. Can you explain how this [$1.1 million switching cost] figure was arrived at?

ANSWER: The $1.1 million dollar switching cost estimate for the 36,120 contract transaction of June 11, 2004 (the "June Combination Trade") was calculated as follows:

- First, we calculated the average price at which the required volume of the CME leg of the trade could be transacted for each quarterly contract month. Because the customer initiating the June Combination Trade had pre-existing short open interest in the first quarterly contract month on the CME and pre-existing long open interest in the second through eighth quarterly contract months, we assumed that the liquidation of this position involved purchasing Eurodollar Futures at the average calculated offer price for the first quarterly expiration month and selling Eurodollar Futures at the average calculated bid price for each of the next seven quarterly contract months.

- Second, we calculated the average price at which the required volume of the LIFFE leg of the trade could be executed for each quarterly contract month. Because the customer initiating the June Combination Trade was re-establishing a short position in the first quarterly month on LIFFE, we assumed that the customer would have sold Eurodollar Futures at the average calculated bid price for the first quarterly contract month. Conversely, because the customer

[1] Unless otherwise defined, all capitalized terms used in this letter have the same meaning as in our November Submission.

behind the June Combination Trade was re-establishing a long position in the second through eighth quarterly contract months on LIFFE, we similarly assumed that the customer would have purchased Eurodollar Futures at the average calculated offer price for each of the next seven quarterly contract months.

- The cost of liquidating the pre-existing short position in the first quarterly contract month on CME and re-establishing the short position on LIFFE was calculated as the nominal value of the differential measured in basis points between the average LIFFE bid price and average CME offer price multiplied by the number of contracts for the first quarterly contract month. Similarly, for each of the next seven quarterly contracts, the cost of liquidating the pre-existing long position on CME and re-establishing the long position on LIFFE is the nominal value of the basis point differential between the average CME bid price and the average LIFFE offer price multiplied by the volume for each of the quarterly contract months.

Our early November assessment of switching costs for the June Combination Trade lacked access to historical depth of market information necessary for a precise calculation. Accordingly, we instead analyzed a Bloomberg snapshot of price and market depth for both LIFFE and CME Globex Eurodollar Futures at 9:00 a.m. CST on November 4, 2004, yielding a highly conservative switching cost estimate.[2]

The calculation for the first quarterly expiration month (Q1 expiration) is detailed below. The following assumptions apply:

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[2] Since both Globex and LIFFE Eurodollar Futures were considerably more liquid in November 2004 than they were in June 2004, the snapshot method ensures that calculated switching costs are very conservative (i.e. overstate Eurodollar Futures liquidity and therefore understate the switching costs associated with the June Combination Trade). (See response to Question 7 for detail regarding liquidity increase.)

It is also important to note that 55% of the volume in the June Combination Trade was in the seventh and eighth quarterly Eurodollar Futures expiration months ("the back red months"). A significant proportion of the volume in the back red months is transacted as part of explicit strategy transactions such a calendar and butterfly spreads, which involve the simultaneous purchase and sale of two or more Eurodollar Futures expiration months. Even in the dominant and highly liquid Globex Eurodollar product, it is questionable whether almost 20,000 outright positions in the back red months could have been transacted at the modest levels of price slippage assumed in our analysis.

It is impossible to quantify the magnitude of the price slippage involved but, in the case of the seventh quarterly expiration month, it would have been substantial. The obvious magnitude of an attempt to purchase or sell thousands of outright Eurodollar Futures contracts in the back red months would have led other traders to pull resting offers and bids, thereby widening the spread differential behind the average calculated LIFFE bid and CME offer price. To be sure, experienced traders would have employed a variety of means to mitigate the impact of price slippage. Nevertheless, it is not unreasonable to assume that the actual execution cost of the seventh quarterly expiration month in the June Combination Trade would have been at least 50% higher than the estimated $644,000 in our conservative assessment of switching costs.

- Pre-existing open interest for Q1 Eurodollar Futures on CME was short 3,592 contracts.
- The purchase of 3,592 contracts at an average calculated CME Eurodollar Futures offer price for the Q1 expiration of 97.67 would be required for liquidation.
- In order to re-establish this short position on LIFFE, the sale of 3,592 contracts at an average calculated LIFFE bid price of 97.662 would also be required.
- The difference between CME offer price and LIFFE bid price is 0.8 basis points (97.67 – 97.662 = 0.008)
- The value of one basis point (0.01) in the Eurodollar Futures Market is $25.00.
- Therefore, the switching cost of purchasing 3,592 contracts on the CME and selling 3,592 contracts on LIFFE is $71,840 (3,592 x 0.8 x $25 = $71,840).

Repeating this calculation as described above for each of the additional seven quarterly expiration months in the June Combination Trade results in $1.1 million in estimated switching costs, as is illustrated by the following chart:

Contract Month	No. of Contracts	CME Leg Price in Central Market	Estimated Average Price LIFFE Leg in Central Market	$ Value of an '0.01'	Estimated Switching Cost ($)
Q1	3592	97.67	97.662	25.0	**71.8K**
Q2	3647	97.44	97.449	25.0	**82.1K**
Q3	702	97.265	97.27	25.0	**8.8K**
Q4	4041	97.08	97.089	25.0	**90.9K**
Q5	3385	96.88	96.885	25.0	**42.3K**
Q6	908	96.71	96.715	25.0	**11.4K**
Q7	15159	96.555	96.572	25.0	**644.3K**
Q8	4686	96.415	96.427	25.0	**140.6K**
Total	**36,120**				**$1,092,200**

2. What is the annual total cost for a customer to carry a Eurodollar position? Is a $1 million "switching cost" enough to deter firms from switching to LIFFE? Based on LIFFE's lower costs, how long would this firm have to remain on LIFFE in order to recoup its switching costs?

ANSWER: The "switching costs" imposed by the Interpretation cannot be recouped through lower fees or margin offsets on LIFFE and pose such a powerful deterrent to switching that competition for the business of existing CME Eurodollar Futures Strategy Position holders is virtually foreclosed. The following information supports this conclusion:

- A Eurodollar Futures Strategy Position holder does not incur "costs" simply by holding a static Eurodollar Futures Strategy Position, whether on LIFFE or the CME. As a result, there is no possibility of recouping the additional "switching costs" imposed by the Interpretation through "lower costs" associated with holding the position on LIFFE rather than CME.

- Nevertheless, to the extent that the customer's investment strategy would necessitate rolling over Eurodollar Futures positions into new positions as they expire or the making of other adjustments and/or alterations in its Strategy Position over time, then LIFFE's lower transaction fees would represent a small cost advantage. However, the switching costs imposed by the Interpretation dwarf the potential fee advantage on LIFFE. To illustrate, assume that the customer would have paid fees of $0.18 per Eurodollar Futures contract traded on the CME. Further assume that the customer would not have been assessed an exchange fee on LIFFE for Eurodollar Futures trades through the central order book. (In practice, the Exchange would have indeed assessed a fee on this customer for such trades.) Thus, using the June Combination Trade as an example, the trader would save just $13,003 ($0.18 x 36,120 x 2) if the trader liquidated and replaced each of the 36,120 contracts on LIFFE rather than the CME. In fact, the trader would need to trade over 5.5 million contracts on LIFFE in order to recoup through lower transaction and clearing fees the additional switching costs imposed by the Interpretation. Even an active trader would never alter an existing Strategy Position at such a velocity in order to generate incremental contracts traded that represent more than 150 times the size of the original position.

- Furthermore, individual Eurodollar Futures Strategy Position holders may recognize margin offset advantages from holding a position on LIFFE rather than the CME, depending on the other holdings in their portfolio and their investment strategy. While the customer initiating the June Combination trade almost certainly valued margin offsets against Euribor futures more highly than margin offsets against Treasury futures, margin advantages deal with efficient deployment of capital, are difficult to quantify and, in any case, would pale in relation to the switching cost for the position. By way of example, assume the following:

  - That the customer initiating the June Combination Trade would have recognized an overall margin reduction of $700 per contract (i.e., the difference between the CME

hedging rate and no additional margin at LCH.Clearnet by virtue of partial risk offset with Euribor positions).[3]

- That the cost of margin was 1/4% per annum (i.e., the opportunity cost of the yield differential between Treasury Bills used as margin and other potential low-risk investments).

Based on these assumptions, the benefit associated with the 36,120 contracts would be $63,210 per annum ($700 x 1/4% x 36,120). This figure, though not insignificant, pales by comparison to the $1.1 million switching costs.

Under these circumstances, a $1 million switching cost is certainly more than sufficient to deter a customer from moving a Eurodollar Futures Strategy Position on the CME to LIFFE. In fact, to our knowledge, since the CME issued the Interpretation last summer, not a single CME Eurodollar Futures Strategy Position holder has moved a Eurodollar Futures Strategy Position from the CME to LIFFE. We understood that the customer initiating the June Combination Trade was prepared to move at least an additional 20,000 Eurodollar Futures contracts from CME to LIFFE before the CME position made such transactions impossible. Furthermore, we know of a second customer that would have been prepared to move approximately 25,000 contracts of pre-existing Eurodollar Futures open interest from CME to LIFFE had the Interpretation not precluded Combination Trades.

Note: Pursuant to discussions with CFTC staff and economic consultants, we submit a single response to questions 3 and 4, as they seek similar information.

3 - 4. In antitrust terms, a relevant market is measured in terms of its participants and concentration. Participants include firms currently producing or selling the market's products in the market's geographic area, and may also include other firms depending on their likely supply responses to a "small but significant and nontransitory" price increase. In this context, can the "switching costs" be considered "significant costs?" Alternatively, how might these costs impose a "significant market impact?"

ANSWER: The switching costs are indeed "significant costs" that heighten already substantial barriers to entry and "impose a significant market impact." As we explained in our November Submission and maintain today, the Interpretation should be invalidated as the exclusionary tactic of an incumbent monopolist that forecloses competition, eliminates customer choice and improperly maintains the CME's monopoly in a market characterized by pervasive network effects. The Interpretation also may be viewed as (or at least analogized to) an unlawful vertical restraint, despite the Interpretation's constraint on end users rather than suppliers or distributors. In addition, as your questions recognize, some of the most useful rubrics for

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[3] While we have no way of knowing the actual margin reduction recognized by the customer, this assumption is within a realistic range.

analyzing the competitive impact of the barriers to entry erected by the Interpretation come from the Merger Guidelines.[4] Accordingly, we supplement our prior competitive analysis by responding to your questions in two parts, one demonstrating the competitive significance of the market foreclosure effectuated by the Interpretation under vertical restraints case law and the other applying Merger Guidelines principals.

I. Vertical Restraints Analysis

Although the Interpretation restrains trade by constraining end users, rather than suppliers or distributors, vertical restraints case law provides helpful analogues for analyzing the Interpretation's competitive impact. Were this a vertical restraints case involving an exclusive dealing arrangement, the degree of market foreclosure involved and market structure considerations would render the Interpretation unlawful.

Exclusive dealing is an unreasonable restraint of trade under Section 1 of the Sherman Act when it "forecloses" so much of the available supply or outlet capacity that existing competitors or new entrants are limited or excluded under circumstances that reinforce market power and raise prices for consumers. *See, U.S. Healthcare Inc. v. Healthsource Inc.*, 986 F.2d 589 (1st Cir. 1993). Foreclosure percentages higher than 50% are routinely condemned (XI Areeda & Hovenkamp, Antitrust Law, ¶1821c at 177 (2d ed. 2005)), particularly in the face of high market concentration and significant barriers to entry. As the First Circuit recently observed:

> The best example of a possible threat to competition [in an exclusive dealing case] exists where a market is already heavily concentrated and long-term exclusive dealing contracts at either the supplier or distribution end foreclose so large a percentage of the available supply or outlets that entry into the concentrated market is unreasonably constricted.

Eastern Food Serv., Inc. v. Pontifical Catholic Univ. Serv. Assoc., Inc., 357 F.3d 1, 8 (1st Cir. 2004). An analogous situation exists in this case. The Eurodollar Futures Market was already heavily concentrated and difficult to enter when the CME issued the Interpretation. If the Interpretation is allowed to stand, it would permanently foreclose competition for such a large percentage of customer open interest -- in excess of 70% -- that entry would be unreasonably and permanently constricted.

Exclusive dealing arrangements also violate Section 2 of the Sherman Act when used by a dominant firm to restrain or hinder competition in the dominant firm's product. XI Areeda & Hovenkamp, ¶1800c5 at 20. For example, the courts in *U.S. v. Microsoft Co.*, 253 F.3d 34 (D.C. Cir. 2001), condemned Microsoft's exclusive contracts with internet access providers ("IAPs") under Section 2. IAPs constituted one of two major distribution channels by which browsers

[4] *See,* Department of Justice and Federal Trade Commission, 1992 Horizontal Merger Guidelines ("Merger Guidelines") (http://www.ftc.gov/bc/docs/horizmer.htm).

could be distributed and Microsoft had signed exclusive deals with fourteen of the top fifteen IAPs in North America accounting "for a large majority of all internet access subscriptions in this part of the world." 253 F.3d at 367. Moreover, although Microsoft had not completely precluded rivals from reaching potential users by some other means of distribution, IAPs constituted the most efficient distribution channel for browsing software and the exclusive contracts relegated rivals to more costly and less effective distribution channels.[5] As the court observed:

> By ensuring that the "majority" of all IAP subscribers are offered [Microsoft's browser] either as the default browser or as the only browser, Microsoft's deals with the IAPs clearly have a significant effect in preserving its monopoly; they help keep usage of Navigator below the critical level necessary for Navigator or any other rival to pose a real threat to Microsoft's monopoly.

Id. at 367.[6]

The Interpretation is even more preclusive than Microsoft's exclusive dealing arrangements with large IAPs because the Interpretation locks up end users rather than distributors. Specifically, the Interpretation eliminates customer access to Combination Trades, the most efficient means of moving pre-existing Strategy Positions to LIFFE. Although customers theoretically have other means of moving their business, such means are so much more costly that they simply are not commercially viable. Given the strong customer preference for holding Strategy Positions (including incremental and roll over positions) on a single exchange, the Interpretation gives the

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5 Similarly, in the Third Circuit's recent decision in *U.S. v. Dentsply Int'l, Inc.*, 3d Cir., No. 03-4097 (Feb. 24, 2005), the court held that Dentsply's grip on the 23 authorized dealers with whom it has exclusive contracts "effectively choked off the market for artificial teeth, leaving only a small sliver for competitors," Slip. Op. at 32, and helped "keep sales of competing teeth below the critical level necessary for any rival to pose a real threat to Dentsply's market share." Slip. Op at 21. The court therefore concluded that "the Government established that Dentsply's exclusionary policies and particularly Dealer Criterion 6 [which precluded authorized dealers from adding further tooth lines to their product offering] violated Section 2." Slip. Op. at 32.

6 In several other cases, courts have held that predatory tactics that effectively foreclose competition in a significant portion of the relevant market violate Section 2, even if exclusivity is not expressly required. *E.g., LePage's Inc. v. 3M*, 324 F.3d 141 (3d Cir. 2003) (jury could reasonably find that bundled rebates offered by monopolist may foreclose portions of a market to a potential competitor who does not manufacture an equally diverse group of products and who, therefore, cannot make a comparable offer); *SmithKline Corp. v. Eli Lilly & Co.*, 575 F.2d 1056 (3d Cir. 1978) (were it not for bundled rebate program, the price, supply and demand for bundled drugs would have been determined by the economic laws of a competitive market, but rebate program "blatantly revised those economic laws" and made Lily a transgressor under § 2 of the Sherman Act). In this case, the Interpretation has blatantly revised the economic laws of a competitive market and distorted demand. Like 3M in the *LePage* case, the CME instituted a predatory policy just as a new entrant had begun to enjoy a "small but rapidly expanding toehold" in the market in order to preserve its market position and discourage widespread acceptance of the cheaper, but substantially similar product offered by LIFFE. *LePage's* 324 F.2d at 156.

CME a virtual lock on the business of the CME Eurodollar Futures Strategy Position holders who account for over 70% of the open interest in the Eurodollar Futures Market. The CME Interpretation thus has "a significant effect in preserving its monopoly;" it helps keep usage of LIFFE "below the critical level" necessary for LIFFE or any other rival to pose a real threat to the CME's monopoly.[7]

In short, the Interpretation forecloses competition in upwards of 70% of a highly concentrated market with high barriers to entry. Under vertical restraint case law, such foreclosure would be deemed a clear antitrust violation. Here, the restraint of trade is even more preclusive than in a traditional vertical restraint case, as the CME has unilaterally imposed a restriction directly on customers, rather than on distributors, dealers or a source of supply. Under these circumstances, the Interpretation should be invalidated.

II. Merger Guidelines Analysis

Under the Merger Guidelines, a merger is unlikely to create or enhance market power or facilitate its exercise if entry is "timely, likely and sufficient in its magnitude, character and scope to counteract the competitive effects of concern." (See Merger Guidelines Section 3.0.) Conversely, when a market is characterized by significant barriers to entry, entry is unlikely to counteract the anticompetitive concerns that arise when a merger would produce market share and market concentration statistics significantly in excess of Merger Guidelines thresholds.

During the month of March 2005 (through March 18th) the CME accounted for approximately 97.7% of the open interest in the Eurodollar Futures Market and 97.3% of the trading volume, well above the 35% threshold that may create unilateral effects concerns under the Merger Guidelines. (See Merger Guidelines Section 2.22.) Moreover, regardless of how market shares are calculated, Herfindahl-Hirschman Index calculations indicate that the Eurodollar Futures Market is "highly concentrated." (See Merger Guidelines Section 1.51.) Thus, the CME's attempt to erect additional barriers to entry to preserve a dominant market share in a highly concentrated market certainly should give rise to competitive concerns.

The barrier to entry imposed by the Interpretation is significant on every dimension identified by the Merger Guidelines. First, the Interpretation extends the timeframe necessary for a new entrant to achieve the level of liquidity required to pose a meaningful competitive alternative to the CME. Combination Trades are one of the most efficient and effective ways for a nascent exchange to build the liquidity and open interest necessary to compete in the Eurodollar Futures Market. Indeed, the June Combination Trades provided an essential and significant boost to the

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[7] As we note below, as of March 18, 2005, LIFFE's share of the Eurodollar Futures Market was less than 3%. As explained at length in earlier submissions, the CME has no legitimate rationale for the Interpretation.

open interest of LIFFE Eurodollar Futures, without which LIFFE's Eurodollar Futures product may have prematurely failed.[8]

As we indicated above, LIFFE has reason to believe that additional Combination Trades would have occurred but for the Interpretation and that LIFFE's open interest and ADV would be significantly greater than they are today. Although LIFFE has made strides toward building liquidity, LIFFE's Eurodollar Futures still lack the level of open interest to be considered a viable competitive alternative to CME Eurodollar Futures by some important Eurodollar Futures users, such as commercial banks. In addition, LIFFE must pay stipends to market makers to post the tight bid-offer spreads necessary to attract institutional business and thus maintain the nascent levels of competition in the global Eurodollar Futures Market, the benefits from which inure to both users of LIFFE and CME Eurodollar Futures.[9] By blocking LIFFE from building liquidity through Combination Trades, the Interpretation certainly extends the time horizon during which LIFFE will need to pay stipends to market makers to attract Institutional business.

Second, the Interpretation significantly reduces the likelihood that entry will be profitable. (See Merger Guidelines Section 3.3.) The Interpretation removes a significant "sales opportunity" for new entrants like LIFFE to benefit from the diversion of customers away from the incumbent exchange. Because the Interpretation effectively forecloses competition for the business of existing CME Eurodollar Futures Strategy Position holders who conservatively account for 70% of the market, the Interpretation has the effect of limiting "sales opportunities" for LIFFE and other rivals to the remaining 30% of the market. The Interpretation further limits sales opportunities by artificially depressing the open interest and thus liquidity of LIFFE Eurodollar Futures, thereby handicapping LIFFE's ability to attract business from *de novo* customers and speculators. Not only does the Interpretation limit sales opportunities, it also increases rival costs by requiring LIFFE to pay greater market maker fees over a longer time horizon than would otherwise prevail had LIFFE been able to build liquidity through Combination Trades. As a result, LIFFE may never be able to achieve the level of annual sales necessary for profitability at pre-Interpretation prices.

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[8] On June 10th, the day immediately preceding the June Combination Trade, LIFFE Eurodollar Futures had open interest of approximately 56,600 contracts. As a result of the June Combination Trade LIFFE Eurodollar Futures open interest jumped by 35,800 contracts, or 63%. The LIFFE basis trade and CME block trade facilities provided the only viable means by which an institutional participant could have transferred pre-existing Eurodollar Futures open interest from CME to LIFFE. In the absence of the June Combination Trade, LIFFE Eurodollar Futures may have failed to gain the open interest necessary to provide other institutional participants the confidence that LIFFE's Eurodollar Futures product might evolve into an alternative and competitive liquidity pool for Eurodollar Futures. Had the LIFFE Eurodollar Futures product prematurely failed, then many of the benefits from even minimal levels of competition that global Eurodollar Futures customers enjoy today in the form of greater market immediacy, sophisticated electronic trading functionality and lower costs are unlikely to have progressed to today's levels.

[9] This is necessary to mimic the liquidity that naturally occurs once a critical mass of open interest and trading volume is achieved.

Third, given the market foreclosure involved, the Interpretation reduces the likelihood that entry (whether by LIFFE or any other exchange) will be of sufficient scope to deter or counteract a CME attempt to increase prices above competitive levels. (See Merger Guidelines Section 3.4.) Because the Interpretation gives the CME a virtual lock on over 70% of the market, the Interpretation ensures that CME Eurodollar Futures always will be more liquid than LIFFE Eurodollar Futures. This gives the CME a powerful product differentiation advantage, even with *de novo* customers and speculators who do not hold Strategy Positions, and further reduces the likelihood that LIFFE will be able to mount a credible challenge to the CME's market dominance.

The Interpretation also makes it all but certain that no other exchange will enter the Eurodollar Futures Market. Entry into the Eurodollar Futures Market requires certain significant investments in technology, marketing and liquidity in the form of market making stipends. No other exchange is likely to make these investments if it is foreclosed from competing for the patronage of CME Strategy Position holders accounting for at least 70% of the market. In Merger Guidelines parlance, the minimum viable scale for a new entrant is larger than the likely sales opportunity left by the Interpretation's lock-in effect. (See Merger Guidelines Section 3.3.) Moreover, other exchanges are likely to reason that, if LIFFE is unable to mount a credible challenge to the CME's market dominance, despite LIFFE's superior electronic trading platform and significant resources, then their entry would be futile.

The Interpretation is particularly invidious because it exacerbates the natural barriers to entry posed by the network effects that characterize the Eurodollar Futures Market. These network effects arise because the utility of Eurodollar Futures on a given exchange increases as the number of other customers trading and holding positions on the exchange increases. In other words, as open interest and trading volumes on an exchange increase, the futures become more liquid and therefore more attractive.[10] Before the CME issued the Interpretation, Combination Trades promised to help LIFFE surmount the network effects barrier and indeed such transactions enabled LIFFE to double its open interest over a one month period.[11] By eliminating one of the most effective and efficient means of building liquidity and indeed the only feasible means of attracting large Strategy Positions from the incumbent exchange, the Interpretation makes it far more difficult (if not nearly impossible) for a new entrant like LIFFE to achieve the level of liquidity necessary for long-run competitive viability.

The Government has blocked mergers that would create a dominant firm capable of using predatory tactics to disadvantage smaller rivals and thereby "tip" a market characterized by network effects toward monopoly. *See, U.S. v. Worldcom, Inc.*, 2001 WL 1188484 (D.D.C.

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[10] In fact, network effects give the incumbent exchange in a given commodity futures market such a powerful competitive advantage that entry into most commodity futures markets is deterred altogether.

[11] The open interest jump between June 10 and June 22 still represents 19% of LIFFE's current Eurodollar Futures open interest of 193,000 contracts.

2001) (merger of internet backbone providers would raise already high barriers to entry and create a dominant firm that might reduce quality or increase price of interconnectivity with smaller rivals and thus tip market toward monopoly.)[12] In this case, the CME already has a dominant market position. Absent the Commission's intervention, the CME will use the Interpretation to disadvantage its smaller rival and ensure that the market remains tipped in its favor in perpetuity. If this occurs, neither competition from LIFFE nor the threat of new entry is likely to constrain the CME's ability to impose a "small but significant and non-transitory" price increase (as measured by transaction and clearing fees).

5. What are the relevant user costs (including transaction fees, other exchange fees and margin costs) for the Eurodollar market, and how have they changed over time? What have the costs been over the past five years?

ANSWER: We lack the historical information necessary to respond properly to this question and suggest that your request for historical data regarding CME user costs is best posed to the CME. We are confident, however, that the record will show that the period of greatest reduction in end user costs occurred over the 15-month period beginning with LIFFE's January 2004 announcement of its intention to list Eurodollar Futures. Our answer to Question 6 below details the diversity and magnitude of direct and indirect cost reductions that followed LIFFE's entry into the Eurodollar Futures Market.

The CME's current user fees include clearing fees, Globex access fees, transfer fees, foreign exchange fees and certain surcharges, which are different for members (who must pay for their memberships) and non-members. (See www.cme.com.) Like nearly all financial exchanges, the CME's user fees vary based on a variety of factors, including the type of product traded, customer type and the volume of trades effectuated by the customer. Moreover, like many exchanges, the CME offers preferential pricing to market makers. For example, where Eurodollar Futures are concerned, the CME has waived the 10 cent Globex access fee for certain qualified Eurodollar Futures market makers, bringing the transaction fee for these customers down from 18 cents to 8 cents per side.

While historical user cost changes certainly are relevant in assessing the CME's response to the competitive threat posed by LIFFE, the historical prevalence of price discrimination in favor of liquidity providers demands particular vigilance in this case. The Interpretation insulates the CME from competition for the business of institutional customers who hold existing Strategy Positions on the CME and who comprise over 70% of the open interest in the Eurodollar Futures Market. Such customers have no viable product substitute because they hold Eurodollar Futures as a hedge against (or to gain exposure to) dollar-denominated short term interest rate risk. The CME's ability to price discriminate against such customers exacerbates the Interpretation's

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[12] At the time, the Department of Justice had legitimate concerns regarding Worldcom's dominance and that Worldcom would implode following the discovery of distorted earnings and other accounting irregularities.

potential anticompetitive effect.[13] *See, Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451, 476-77 (1992) (if seller can price discriminate between its locked-in customers and potential new customers, then supracompetitive pricing strategy is even more likely to prove profitable).

Finally, we note that the primary determinant of user costs for the Eurodollar Futures Market is actually a factor that is not directly set by LIFFE or the CME: the magnitude and depth of the quoted best bid/best ask differential for all actively traded contract months, which generally encompass the first eight quarterly months. The narrower the size of the spread, the less expensive it is to transact Eurodollar Futures. Similarly the greater the depth (the amount of contracts bid for and offered at the best price) the greater the amount of Eurodollar Futures contracts that can be purchased (at the ask price) and sold (at the bid price). On the CME, users can typically transact 1,000 Eurodollar Futures contracts (and frequently more) at a 0.50 basis point spread between the best bid and best offer price in the first four contract months. Since a 0.50 basis point spread equates to $12.50 per contract, the "mid-price" market slippage costs, measured by half the size of the bid/ask spread differential, associated with executing 1,000 Eurodollar Futures is $6,250.[14] If a trader desired to execute a larger amount of contracts than could be accommodated at the best bid or the best offer then the order would have to be worked or some incremental portion would have to transacted at an inferior bid or offer price. The execution of incremental contracts at an inferior bid or offer has the effect of widening the bid/ask spread for those contracts to at least 1.0 basis point, equivalent to $25 per contract. Therefore, market slippage costs for executed contracts normally overwhelms other aspects of user costs. (See also, response to Question 1.)

The ability of LIFFE to maintain bid-offer spreads that are comparable to the CME over time is in part a function of the market believing that sufficient liquidity levels will exist in the future when a customer wishes to unwind a long-term position. This determinant is partially based on expectations of the size of LIFFE's open interest, which is dramatically and adversely impacted by the Interpretation.

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[13] To use the parlance of *Brown Shoe*, the Commission might conclude that institutional customers who hold Eurodollar Futures as a hedge against (or to gain exposure to) short-term, dollar-denominated interest rate risk comprise a relevant submarket (and in Merger Guidelines parlance such customers would constitute a separate market) characterized by completely inelastic demand. *See*, 370 U.S. at 325; Merger Guidelines §1.12. Within such sub-market, the Interpretation certainly constitutes an unreasonable restraint of trade. *See*, Merger Guidelines §1.12 ("If a hypothetical monopolist can identify and price differently to those buyers ("targeted buyers") who would not defeat the targeted price increase by substituting the other products in response to a "small but significant and nontransitory" price increase for the relevant product, and if other buyers likely would not purchase the relevant product and resell to targeted buyers, then a hypothetical monopolist would profitably impose a discriminatory price increase on sales to targeted buyers").

[14] If the user subsequently closes its position, the user will then incur a market slippage cost equal to the other half of the bid-ask spread differential.

6. Did CME's Eurodollar user costs or technology change to meet the competitive threat from LIFFE?

ANSWER: As we indicated in our November Submission, LIFFE's entry into the Eurodollar Futures Market spurred the CME to make significant investments to improve its Globex electronic trading platform and thereby reduce the technological disadvantage vis a vis the LIFFE CONNECT® platform. (See response to Question 4 in November Submission.)

Moreover, prior to LIFFE's entry into the Eurodollar Futures Market, floor brokers were a powerful political force at the CME. Because these brokers profited handsomely from the floor brokerage fees they charged customers under the open outcry system, they resisted the demand by global customers that the CME make greater use of the Globex trading platform so as to bring the advantages of market immediacy to all users. Since there was no competitive pressure to increase efficiency or reduce customer costs, the CME had little incentive to move to an electronic trading platform. However, once LIFFE entered the market, competitive pressures prompted the CME to press for improvements in the CME's electronic trading platform and for the conversion away from the open outcry system. As a result, the CME made significant technology investments and offered a variety of users electronic trading incentives that resulted in a dramatic transformation in the way Eurodollar Futures are transacted at the CME. In the span of one year, CME Eurodollar Futures went from 95% open-outcry traded to over 75% electronic. The net result for CME customers is a vastly improved trading platform, more efficient transaction capability, the elimination of floor broker commissions and, consequently, lower net transaction fees.

In fact, the emergence of Globex as a trading platform with liquidity comparable to and, in quick succession, superior to the floor, resulted in the largest savings to global Eurodollar Futures customers. Once the CME established Globex as a credible platform for transacting Eurodollar Futures, global institutional users began to submit orders directly into the electronic order book, thereby saving a minimum of 50 cents per contract in brokerage paid to floor brokers.[15]

A more efficient Eurodollar Futures Market has positive ramifications for the economy as a whole. For example, because Eurodollar Futures are a mechanism by which lenders can confidently manage their mortgage portfolio exposure and allow home buyers to benefit from the lowest possible mortgage rate, the reduction in Eurodollar Futures execution costs has a social utility that transcends the savings associated by the elimination of brokerage charges to market participants. For example, a more cost effective and efficient platform for transacting Eurodollar Futures provides broad benefits, such as (i) allowing mortgage lenders to manage their interest rate risk more efficiently, in turn allowing them to offer lower interest rates to home buyers; (ii)

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[15] This move to an electronic system provided significantly greater accessibility, transparency and functionality and, for most active traders, resulted in a net cost savings due to the elimination of floor brokerage fees and the CME's implementation of a complex set of Globex access and transaction fee discounts.

allowing businesses to manage the interest rate risk they face on short- or medium-term borrowing or lending, strengthening their financial condition, for the benefit of shareholders and employees; and (iii) allowing investors to manage the interest rate risk associated with buying federal, state and local, or corporate bonds, thereby lowering the cost for business, government and families to borrow. These are the benefits to innovation spawned by competition that will be foreclosed if the Rule Interpretation is allowed to stand.

During the 15 months since LIFFE's announcement in January 2004 to list a competing all-electronic Eurodollar Futures contract, the CME introduced a number of incentive programs that reduced a large segment of customers' cost of trading Eurodollar Futures, which account for the largest proportion of the CME's total contract volume (37%) than any other single product. These initiatives include:

- Introduction of a European Incentive Program providing proprietary customers and select customers a $0.44 fee for Eurodollar Futures. Subsequently, the program was enhanced to provide an even more competitive tiered pricing structure for higher volume transacting European customers. These savings are substantial because in the absence of the Incentive Program, most European customers would have paid a fee of $1.19 per contract per side to execute Eurodollar Futures on Globex and approximately $1.14 (including floor brokerage commissions) per contract per side to execute Eurodollar Futures on the floor.

- Introduction of seven telecommunications hubs in Europe, purportedly reducing European end user connectivity costs by 75% and providing substantially improved market immediacy.

- Introduction of incentive programs designed to target new Globex traders.

- Introduction of a new class of membership for hedge Funds, thereby lowering transaction fees for a significant user class of Eurodollar Futures.

- Reduction of class A share requirements for membership, thereby lowering the hurdle for attaining CME membership and access to reduced member fees.

- Establishment of a Remote Clearing Member class for European entities desiring to access CME member rates and clear trades from offices outside of the U.S.

Additional business development and technology enhancement projects had the effect of providing customers with cost efficient and functionally rich market immediacy. Some examples include:

- Acceleration of various Globex performance upgrades in 2004.

- Extension of Globex electronic trading hours.

- Introduction of implied pricing functionality for butterfly spreads in Eurodollar Futures.

- Modification of CME's matching algorithm for Eurodollar Futures, providing for a more attractive allocation of trades based on pro-rata and price-time matching components.

- Substantial increase in the number of staff and resources in CME's European branch office dedicated to service European clients.

- Purchase of Liquidity Direct Options platform that was re-branded and integrated with Globex to become CME's Enhanced Options System (EOS) for Eurodollar Options.

- Introduction of various Designated Market Making programs for Eurodollar Futures and Options.

- Development of a Joint Venture with Tullett Liberty in the creation of listed Forward Rate Agreements (FRAs), thereby potentially reducing interest rate gap exposures of FRA dealers.

In short, the CME has taken a number of steps to improve the economic and qualitative attractiveness of its products over the past several months and it is safe to assume that LIFFE's announced entry into the Eurodollar Futures Market was a significant motivating factor for many, if not all, of these initiatives.

7. Did any customers switch from other interest rate products to either CME's or LIFFE's Eurodollar contract due to the reduction in user costs? If so, how many?

ANSWER: It is impossible to know whether any customers switched from other interest rate products to either the CME's or LIFFE's Eurodollar Futures products due to the reduction in user costs. Most customers of other interest rate products use a particular instrument to correspond to a particular need (see answer to Questions 8 and 9.), making it highly unlikely that any such customers switched to Eurodollar Futures due to a reduction in user costs. However, we do know that, beginning with the fourth quarter of 2003 (just prior to LIFFE's announcement in January 2004 that it intended to launch Eurodollar Futures) through the first quarter of 2005, there was an unprecedented increase in Eurodollar Futures volume and open interest on CME. Similarly LIFFE Eurodollar Futures have grown since its launch in March 2004, albeit at a much smaller absolute level than the growth of CME Eurodollar Futures.[16]

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[16] CME Eurodollar Futures volume, which was 52.4 million contracts in Q4 2003, rose for the next three successive quarters to total 82.3 million in Q3 2004. Volume receded by 8% in Q4 2004 but then jumped to a record 90.8 million in Q1 2005. CME Eurodollar Futures open interest also appreciated, albeit at a more uneven pace, from approximately 5.3 million at the end of 2003 to 6.6 million at the end of 2004. CME Eurodollar Futures open interest then jumped by 24% during Q1 2005 to 8.2 million.

Although it is impossible to speak definitively to the reasons behind the growth of Eurodollar Futures (virtually all of which occurred at the CME) we believe that a reduction in user costs was a minor factor behind the increase in Eurodollar Futures volume, and one that would not have caused demand to increase in isolation. The two major reasons behind the growth in Eurodollar Futures were macroeconomic forces related to a significant jump in short-term rates in the US and the greater market immediacy traders enjoyed as the CME Eurodollar Futures market became increasingly electronic.

In an effort to promote monetary neutrality – i.e. to ensure that short-term interest rates fluctuate at levels consistent with low inflation and long-term expansion of the US economy - the Federal Reserve raised the Fed Funds rate by 0.25 basis points during seven consecutive FOMC meetings beginning in June 2004. The result is that the Fed Funds rate now stands at 2.75 percent, almost three times higher than it was only ten months ago.

The fundamental upward shift in the Fed Funds rate during this 10-month period has consequently led to an increase of yield volatility at the short-end yield curve, which meant that commercial banks, insurance companies and other global financial services firms utilized Eurodollar Futures more extensively for risk management purposes. Although absolute levels of short-term interest rate yield volatility have since abated, institutional utilization of Eurodollar Futures for risk management purposes remains very strong as evidenced by the steady growth in CME Eurodollar Futures open interest.

Although certain segments of the Eurodollar Futures trading community, such as scalpers, evidence some price elasticity and would be expected to trade more aggressively as user costs decline, in the absence of vibrant institutional risk management activity Eurodollar Futures volume and open interest would not grow by appreciable amounts.[17] Therefore, the single most

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In comparison, LIFFE Eurodollar Futures volume increased for the four full calendar quarters of its existence from 0.8 million in Q2 2004 to 2.8 million in Q1 2005. Open interest rose from 91,000 contracts at the end of Q2 2004 to 187,000 at the end of Q1 2005.

[17] Had a limited number of customers switched from other interest rate products to Eurodollar Futures due to a reduction in "user costs," this still would not indicate that such other interest rate products should be included in the same relevant product market for purposes of antitrust analysis for the following reasons:

- The vast majority of Eurodollar Futures customers holding open interest use LIFFE and CME Eurodollar Futures in order to hedge against, or gain exposure to, dollar-denominated short-term interest rate risk. Under the "reasonable interchangeability" test of *Brown Shoe* and its progeny, other interest rate products certainly are not a reasonable substitute for these customers.
- When a large segment of a product's customers have no reasonable substitutes, the relevant product market should be confined to that product. *See, FTC v. Cardinal Health, Inc.*, 12 F. Supp.2d 34, 47-49 (D.D.C. 1998) (although different classes of customers have varied ability to substitute services provided by defendants, such other services were not a plausible substitute for most customers and lacked practical availability to be included within relevant market); *FTC v. Swedish Match*, 131 F. Supp.2d 151, 163 - 64 (although evidence suggested that "there are at least some consumers who are

prominent factor behind the growth of Eurodollar Futures over the past year is institutional risk management activity related to the jump in short-term interest rates.

In this regard, it is important to note that the trading activity of proprietary Eurodollar Futures traders who engage in market scalping activity and other traders who pursue a variety of speculative trading opportunities is dependent on the amount of institutional customer order flow in the market. These traders seek a theoretical trading edge, which typically arises as a result of the market interaction of customers. We previously noted that the customer base holding open interest in Eurodollar Futures is generally comprised of a variety of institutional traders, such as global banks, insurance companies, and hedge funds, etc. As explained above, the trading activity of such institutional users is generally motivated by risk management needs, which is a function of macroeconomic forces such as short-term interest rate volatility. For this reason the increased Eurodollar Futures demand of proprietary electronic traders such as scalpers and other short-term, high frequency traders is primarily derivative.

Increased market immediacy related to the adoption of electronic trading for Eurodollar Futures by the CME is the second factor behind the significant growth of the Eurodollar Futures Market. In our response to Question 6 we demonstrated that the catalyst behind the concerted effort by the CME to migrate Eurodollar Futures from the trading pit to Globex was the emergence of LIFFE as an all-electronic competitor to the CME in Eurodollar Futures.[18]

While electronic trading generally leads to a reduction in user costs (primarily through the elimination of commissions paid to floor brokers for executions), the primary reason why electronic trading grows trading volumes is that all users generally enjoy greater transparency and immediate and equal access to the market. As a result of this market immediacy and transparency, risk managers typically transact more actively because they can more confidently and accurately assess market conditions and quickly trade against available liquidity. Similarly, electronic trading enables a significantly larger universe of traders than a finite subset of floor-

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willing to switch between loose leaf and moist snuff on the basis of price," there was insufficient evidence that "moist snuff induces an adequate level of substitution to constrain loose leaf prices").

- The other business and economic realities of the industry demonstrate that other interest rate products should not be included in the relevant market. Eurodollar Futures are commonly recognized as trading in a unique market by customers and analysts, have peculiar characteristics and peculiar uses, appeal to a distinct customer base and have different transaction fee structures and contract prices from other interest rate products. *See, Brown Shoe*, 370 U.S. at 325 - 26.

Both the reasonable interchangeability of use and the practical indicia for determining the relevant market in this case point to a Eurodollar Futures Market.

[18] Globex represented only 8% of CME Eurodollar Futures volume in December 2003. In June of 2004, three months after LIFFE launched Eurodollar Futures, Globex accounted for approximately half of CME Eurodollar Futures volume. Thereafter Globex quickly established itself as the dominant venue for trading CME Eurodollar Futures, accounting for 71 and 76 percent of CME Eurodollar Futures volumes in December 2004 and March 2005 respectively.

based locals to provide liquidity to the market through the posting of bids/offers and the pursuit of a variety of scalping and speculative spread trading strategies. The interaction of more aggressive scalping, investment, and risk management activity creates greater liquidity, which in turn leads to further increases in volume and open interest by enabling additional price sensitive risk management decisions to be transacted at yet finer prices.

Against the backdrop of a macroeconomic environment that was conducive for strong volume growth, electronic market immediacy further enhanced usage levels by electronic scalpers (proprietary traders), other classes of investors, and institutional risk managers. In contrast, because of inefficient and unequal access to market information and the indicative nature of bids/offers on the floor, a reduction in user costs without the benefit of market immediacy promoted by electronic trading would not have engendered an appreciable growth in Eurodollar Futures volume and open interest. Similarly, and all other factors remaining equal, Eurodollar Futures volume would have increased as a result of a migration of the market from the floor to an electronic trading screen even if user costs had remained the same or rose slightly.

For these reasons existing traders who reacted to the dramatic change in short-term interest rates and the emergence of Globex as the primary execution platform by trading more actively generated the majority of the volume growth in CME Eurodollar Futures. In addition, proprietary traders new to the futures market supplemented the volume growth from existing traders by transacting in a liquid electronic market such as Eurodollar Futures, thereby further supporting the volume and open interest growth posted by the CME Eurodollar Futures since the beginning of 2004.

In sum, we believe that few, if any, customers switched from other interest rate products to the CME's or LIFFE's Eurodollar Futures product based solely on the reduction in user costs. Rather, the vast majority of "new business" that has flowed into the market since Q4 2003 would clearly have come based on interest rate volatility and the introduction of electronic trading, even if user costs had remained unchanged. In other words, it was not the reduction in user costs, but rather greater market immediacy associated with the move to the electronic platform and more active institutional risk management activity precipitated by the rapid increase in short-term interest rates that was responsible for the volume growth in Eurodollar Futures.

We further believe that the increased demand for Eurodollar Futures does not correspond to a reduction in demand for other interest rate products, as the cross-elasticity of demand between such products is quite low. As we demonstrated in our November Submission, Eurodollar Futures exhibit very different characteristics, uses and price movements from other STIRs and are not "reasonably interchangeable" with other interest rate products. *See, Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962) (outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross elasticity of demand between the product itself and substitutes for it). This indicates that the Eurodollar Futures Market should indeed be deemed the relevant market for purposes of analyzing the Interpretation's competitive impact.

8. Would any customers of other short term interest rate products switch to CME or LIFFE were these exchanges to reduce its user costs 10 percent? If so, how many?

ANSWER: It is doubtful that a material number of customers would switch from other short-term interest rate (STIR) products to CME or LIFFE Eurodollar Futures products solely due to a 10% reduction in user costs. As we pointed out in our November Submission and above, Eurodollar Futures have a number of unique properties that cannot be replicated by other types of futures or other financial instruments. In particular, Eurodollar Futures offer a uniquely flexible hedge opportunity for customers who have exposure to short or medium term dollar denominated interest rates. (See response to Question 7 in November Submission.) As we further explained, the next closest substitute, other STIR contracts, are not reasonably interchangeable "due to fluctuations in currency exchange rates, differences in the interest rate environment among different currencies and other economic fundamentals, such as country or location risk, that affect interest rates." For example, Euribor Futures are not proxies for Eurodollar Futures because of the difference in underlying currencies, which is reflected in very different interest rates and interest rate movements.[19]

As in the case of Eurodollar Futures customers, the majority of customers in other STIR markets hold their open interest as a hedge against a specific interest rate risk (typically as part of a Strategy Position) and certainly would not move out of those positions and into Eurodollar Futures based solely on a 10% reduction in Eurodollar Futures user costs. Moreover, other customer classes, such as scalpers and other short-term traders, rarely choose to trade a particular STIR product based on exchange costs, but rather based on the other factors described in our response to Question 7. Accordingly, we would expect few customers of other STIR products to switch to Eurodollar Futures in response to a 10% decrease in exchange costs.

9. Would any CME or LIFFE customers switch into other interest rate products were CME and LIFFE both to increase their user costs by 10 percent? If so, how many?

ANSWER: Likewise, it is doubtful that a material number of CME or LIFFE customers would switch to other interest rate products if CME and LIFFE both were to increase their user costs by 10%. Eurodollar Futures offer a uniquely flexible hedge opportunity for customers who have exposure to short or medium term dollar denominated interest rates. Eurodollar Future customers who hold their open interest as such a hedge would not react to a 10% exchange fee increase by seeking to use an alternative product that gave limited or minimal hedge protection.

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[19] As a general proposition, users of a particular STIR contract will not move from one type of STIR contract to another because of an exchange fee differential. However, certain types of frequent short-term traders, such as scalpers, could be influenced to trade a given STIR contract based on a variety of factors. These include unique knowledge and expertise in a given contract, frequency of available trades, bid-offer spreads, exchange membership and membership acquisition costs, functionality of electronic systems and exchange fees. This customer class would not exist but for the demand for liquidity by institutional customers who absolutely would not switch based on a 10% exchange fee reduction.

As we detail above, over 70% of the open interest in the Eurodollar Futures Market is comprised of Strategy Positions held for the purpose of hedging short to mid-term dollar denominated interest rate risk. In addition, other customer classes, such as scalpers and other short-term traders, rarely determine to trade Eurodollar Futures solely based on exchange costs, but rather based on the other factors described in our response to Question 7 and in Footnote 19. Accordingly, the vast majority of Eurodollar Futures customers are unlikely to switch to other STIRs if LIFFE or the CME were to increase exchange costs by 10%.

CONCLUSION

We appreciate the Commission's thoughtful, in-depth inquiry into the Interpretation's competitive impact to determine whether Commission action is warranted under Core Principal 18. Our detailed response is provided to foster the Commission's understanding of why the relevant market in this case should be confined to Eurodollar Futures and how the Interpretation threatens to destroy competition within that market and deprive customers of the choice, price advantages and service enhancements of unfettered competition. The CME has abused its self-regulatory authorities by issuing an Interpretation that has the purpose and effect of thwarting competition by a new entrant, and thereby maintaining monopoly power. Under these circumstances, the Interpretation should not be allowed to stand under Core Principal 18.

Very truly yours,

/s/ Arthur W. Hahn

Arthur W. Hahn

AWH/rj 60355914v10

cc: John Foyle
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