

**CFTC Hearings to Discuss Position Limits, Hedge Exemptions and
Transparency for Energy Markets**

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August 5, 2009

I. Introduction

Chairman Gensler, distinguished Commissioners and staff of the CFTC, thank you for the opportunity to appear in coordination with Managed Funds Association and provide testimony at this hearing. The opinions expressed in my testimony are my own and do not necessarily reflect those of MFA. My name is John Arnold, and I run a commodity-focused hedge fund named Centaurus Energy Master Fund, LP. Founded in 2002, Centaurus today manages over \$5 billion and has more than 70 employees.

Centaurus's largest business is natural gas and electricity trading. We rely almost exclusively on fundamental analysis to guide our trading strategies. As such, we depend on a market that is governed by supply and demand and produces a fair settlement price. If we lose trust in the settlement price, we are much less willing to participate. In addition, our primary role in the market is to provide liquidity to the commercial hedger. Undue influence in the market creates distrust, and that distrust can lead to withdrawal of commercial hedgers from the market. If commercial hedgers lose faith in the integrity of the market and choose not to participate, Centaurus's role – and therefore its business – changes dramatically for the worse. Thus, we are not only committed to, but are dependent upon, fair and efficient markets and share the Commission's goals of promoting efficiency, transparency and market integrity.

In this testimony, I will share with the Commission my views on the factors that it should consider in designing and managing an effective limit structure for the natural gas market. In that regard, I propose the following:

- The Commission should immediately take control of the NYMEX limits process and suspend or rescind the June 5, 2009, NYMEX rules amendment placing hard limits on financially settled instruments.
- The Commission should impose hard limits on physical commodity futures contracts as they approach expiry. The expiration month limit should decrease in stair step fashion at regular intervals as expiry approaches. No hedge exemptions to these limits should be granted to any market participant.
- The Commission should consider replacing accountability levels with hard limits on the forward physically deliverable contracts based on maximum positions in any one month. There should be no "all month" limit.

- The Commission should have transparency and oversight into all financially settled contract positions on exchange and over-the-counter, but should not impose hard limits on financial contracts.

On June 5, two months prior to these hearings, the NYMEX amended existing rules to establish hard limits on all financially settled natural gas contracts. If allowed to take effect as currently structured, the new NYMEX limits rules will have a range of detrimental effects on the market – including pushing trading activity from exchanges to the over-the-counter market, increasing volatility, reducing liquidity and increasing costs for commercial hedgers. I urge the Commission to suspend the recently announced NYMEX position limits, before the limits take effect in September, until the Commission can implement a more appropriate regulatory framework.

In these hearings and several other recent meetings, the Commission has received a great deal of input regarding limits and exemptions. I encourage the Commission to take a considered, reasonable approach to the issue rather than allowing each exchange to adopt discrete regulation that is ineffective, harmful to market efficiency and likely inconsistent with the Commission's goals. I hope that the resulting structure will promote a well-functioning market that continues to allow participants to effectively manage risk.

II. Impose Hard Limits on Physically Deliverable Contracts

The expiration of the natural gas futures contract demands particular scrutiny by regulators as the industry broadly uses this price as a benchmark. Over the past few years, the NYMEX has refined the position limits structure in recognition of the importance of expiration.

Prior to October 2006, the NYMEX aggregated physically deliverable contracts and financially settled contracts for the purpose of setting limits. In a market with aggregated limits, a trader can offset a large futures position with an opposite financial position, and carry these futures into expiration without violating limits. As a result, the true balance of supply and demand for physical gas, represented by physical futures contracts, was not well-determined until very close to expiry. These rules had the potential to create undue volatility in the market as traders could hold large physical positions very close to expiration with no intention of making or taking delivery. Although this may not change the ultimate settlement price of the futures contract, the path taken by the market to get to equilibrium can be quite volatile.

In October 2006, the NYMEX disaggregated financial and physical position limits. The new rules established hard limits for physical futures for the last three days of the contract; however, hedge exemptions were still granted. Financial positions were not subject to limits under the October 2006 rules. They were subject only to an accountability limit that allowed the exchange to question the nature of the position,

prohibit a trader from adding to a position and require a trader to decrease a position if directed upon review. In February 2007, NYMEX refined the rule to limit hedge exemptions during the last day of trading. This effectively prohibited any company from having over 1,000 contracts of open interest in the expiring contract at any point on the final day, as hedge exemptions had onerous requirements.¹

The October 2006 and February 2007 rule changes had a significant positive effect on the market. In the 30 months prior to the October 2006 rules, expiration day in a given month was on average 55% more volatile, and “bid week” days (*i.e.*, the last three days of the contract) were on average 28% more volatile, than the average of the days in that month immediately prior to bid week. In the 30 months since the February 2007 rules, the contract has been just 3% more volatile than average on expiration and 16% less volatile during bid week. The rule changes have worked; they require the industry to find equilibrium earlier in the futures contract’s life (see Appendix 1).

These regulatory actions have greatly alleviated the underlying problem of excessive volatility, but more can be done. The present regime allows for large positions just three days prior to expiration. Data shows that this leads to excessive volatility as the industry scrambles to get under limits. Since the current position limit rules were established in February 2007, the fourth-to-last day has been 35% more volatile than bid week. A “stair step” approach to limits for the prompt contract during the month will force the industry to exit positions in a more orderly fashion. We suggest beginning the expiration month with a hard limit of 6000 contracts (the current one month accountability level) and systematically reducing it to 1000 on expiration day.

The same rationale may apply to limits on deferred contracts. The Commission or exchange should ensure that a contract’s transition from second month to prompt month does not cause undue volatility. Some incremental analysis would be necessary to determine if a hard limit were necessary in the second month, and if so, at what level.

III. Prohibit Hedge Exemptions on Physical Futures Contracts

Under current rules, any market participant may request a hedge exemption from the NYMEX.² If the NYMEX grants the request, a company is given a new position limit for physical futures in excess of the exchange limit of 1,000 lots during bid week. The stated purpose for allowing these exemptions is to grant greater flexibility to hedge

¹ A company was subject to the 1,000 contracts limit unless it was willing to supply its complete book of positions to the exchange and could show that “1) [p]ositions in excess of 1,000 contracts . . . offset a demonstrated risk in the book and 2) [t]he net exposure of the entire book . . . [was] no more than the 1,000 contracts on the side of the market that could benefit by trading by that market participant during the closing range.” *Compliance Advisory #01-07*, NYMEX Notice to Members No. 91 (Feb. 16, 2007).

² Centaurus presently has a hedge exemption from the NYMEX.

exposure “for the purpose of establishing a hedge of a physical or swap market position.”³

Once a hedge exemption is granted, the elevated position limits typically apply to that market participant for one year regardless of whether the exposure that led to the initial request remains on the books. This creates the potential for abuse. Imagine a customer that has a large book of business and asks the exchange for an exemption that would raise its limits from 1,000 contracts to 3,000 contracts. The exemption is not unidirectional; it allows the counterparty to be either long or short 3,000 contracts. Once the NYMEX grants the exemption, it does not monitor whether the need for that exemption changes. The position to be hedged may roll off after one month, but the exemption remains for another eleven months, allowing the trader to take larger positions than the exchange desires.

More troubling, a trader need not use the exemption to actually hedge. The trader may use the position to increase his exposure to the market. If a trader has a 3,000 lot financial long position, he may use the exemption to buy an additional 3,000 contracts of physical futures. As positions for a swap dealer can change quickly, the NYMEX has no ability to monitor whether the need for the exemption is valid at any given time.

Companies also may use assets to obtain hedge exemptions, and then use those exemptions to speculate. For example, a company that own natural gas reserves and power plants can use those assets to claim it needs an exemption to short the market in excess of limits against the reserves. Or it can claim it needs an exemption to get long gas to hedge fuel for the power plants. In reality, it now has the ability to speculate in excess of limits.

There are fundamental differences between a physical futures contract and a financial contract. They serve different functions in the market, are used for different purposes and as such should be regulated differently. Applicable rules should both reinforce these differences and ensure that market participants are using each contract for its stated purpose.

There is no reason why a hedger or speculator needs to trade physical delivery contracts if financially settled contracts are available at the same price. The physical contract should be primarily used to meet physical gas requirements. The trader who is trying to offset price risk, but who has no intent on delivery, is better served by the financial contract. Indeed, both hedgers and speculators should desire to execute financially to avoid transaction costs and slippage involved in exiting the physical futures contract prior to settlement. That being said, it is important that all traders have access to the physical contract in reasonable size. Those who do seek to trade the physical contract

³ NYMEX guidance relating to “Hedge Exemptions from Position Limits,” *available at* http://www.nymex.com/ss_main.aspx?pg=4.

should not have to compromise liquidity. Traders should be allowed to arbitrage the two and execute on the exchange with the best price, subject to strict position limits on the physical futures contract.

IV. Do Not Mandate Position Limits on Financially Settled Contracts

NYMEX's October 2006 rule changes, which separated limits on physical contracts from those on financial contracts, correctly identified and addressed a source of the problem of volatility associated with expiration. Hard position limits on physical contracts have significantly reduced volatility in the days surrounding contract expiry. On June 5 of this year, the NYMEX announced its intent to apply this same 1,000 lot limit to financial contracts. This new rule will not only fail to address the stated concerns of the Commission but will likely result in increased volatility, reduced liquidity and raised trading costs for commercial hedgers.

A. Financial Trading Does Not in Itself Create Volatility

A threshold question is whether an increase in financial trading makes natural gas more volatile overall. We have seen no conclusive evidence of a positive correlation between trading volume and volatility. On the contrary, despite a steady increase in financial trading volumes and open interest by all market participants (including index funds and ETFs), volatility of natural gas has shown a steady decrease over the past ten years (see Appendix 2). This makes intuitive sense: The more participants and capital in the industry, the more liquidity there should be around any price point, and the less likely the market is to deviate from fair value.

We see evidence of this in the width of market quotes. Ten years ago the bid/offer width on the front month contract was usually one penny. Today, it averages two-tenths of a cent. The bid/offer width on the first calendar year used to be two to three cents. Today it averages one penny. In short, increased financial trading over the years has led to less volatility and greater liquidity for the commercial hedger.

B. Financial and Physical Futures Contracts Are Not Fungible

Physical contracts serve as a liquidity tool for the physical product. Any producer or end user can make or take delivery if its needs meet the specifications of the contract. The contract must find the price on expiration where the market as a whole is indifferent at that price. Individual participants may make or take delivery, but the contract must settle at the intersection of supply and demand of the specified product for the following month. The industry has properly used this settlement price as a benchmark to price many private transactions, especially when the product exchanged has different specifications. Participants have frequently used the physical contract as a proxy to hedge natural gas exposure broadly. In many cases, there is no intention of making or taking delivery of the futures contract. Such hedges can be problematic as one must eventually exit the physical futures position while trying to keep the price protection in place for as long as possible to most closely replicate the settlement price. This leads to large open interest in the physical contract that is unstable for the market. The financial contract, however, has none of these concerns. It settles against the physical futures settlement. A party with a desire to hedge financial risk need not use a physical contract, as it has access to a product that mirrors the risk that the counterparty desires to hedge.

It is important not to conflate correlation and causation in considering the difference between physical and financial natural gas contracts. In the past, some have argued that the high correlation between the two is evidence that the contracts are fungible. They are not. The physical futures contract requires one to either make or take delivery or exit the contract. The financial contract can be worn to settlement. This is a key difference. So long as the contract has a robust design, which is the case with the natural gas contract, the futures contract must settle at the price of market indifference, and the financial contract must follow that settlement price.

C. Position Limits on Financial Contracts Would Increase Transaction Costs and Volatility

There are significant industry positions of financially settled instruments in excess of the 1,000 contract limit imposed by the new NYMEX rules. These positions may be hedging other risks in the portfolio of a given market participant, or they may be purely speculative. Under the limits regime presently in force, these positions may cash settle. As of September, however, participants with these positions must either be exempted from limits or they must reduce them to comply with limits. This requirement will result in a significant amount of unnecessary trading and more volatility as traders have to unwind previously existing positions. Moreover, it would make the market more dependent upon small speculators merely by virtue of their size and without regard to their ability or willingness to provide the best price to commercial hedgers.

1. *Risk in the Energy Industry*

The energy industry faces extremely high levels of risk exposure. There is approximately 75.1 bcf of supply each day in North America (approximately 228,000 contracts of price risk per month).⁴ This is in the context of the NYMEX position limit of 1,000 futures contracts. In addition to the physical size, many other activities generate significant exposure to the price of natural gas. Often nuclear, coal, hydro and renewable power generators have revenue streams linked to natural gas. Banks and institutions hold loans where the credit quality is correlated to the value of natural gas. The global LNG market often benchmarks its pricing to relative to the U.S. market even when the product never reaches our shores. The resultant risk exposure to natural gas prices is significantly larger than the purely physical market would indicate.

Often the risk from commercial hedgers is highly imbalanced. Producers tend to hedge more at high prices while end users shy away from locking in that price environment. The opposite happens when prices are low. This risk exposure requires an active financial market, and a deep pool of speculative capacity, to meet the hedging demand of the industry.

Consider the example of Chesapeake Energy and TXU Energy, which are representative of commercial participants in the market. Chesapeake recently negotiated a hedge facility that allows it to hedge up to 368,813 contracts via swaps with a consortium of 13 banks⁵ – and Chesapeake’s production is less than 3.2% of total North American supply.⁶ TXU, a power generation company, alone sold at least 125,000 contracts of natural gas swaps to hedge its nuclear and coal power plants⁷ – and TXU’s production is only approximately 2.6% of total U.S. generation.⁸ Although all producers will never be 100% hedged at the same time, and there is significant price exposure from end users that at times offsets much of this risk, it is hard to overstate the need for robust risk management tools in this environment.

⁴ 54.5 bcf/d in the United States, 14.5 bcf/d in Canada, 4.5 bcf/d of marketed production in Mexico and 2.0 bcf/d of LNG imports.

⁵ Current Report on Form 8-K of Chesapeake Energy Corporation, dated June 11, 2009, *available at* <http://www.sec.gov/Archives/edgar/data/895126/000089512609000101/chk06172009_8k.htm>.

⁶ 2.38 bcf/d Chesapeake production / 75.1 bcf/d total supply. *See* Footnote 3 and Chesapeake Energy, Current Outlook as of May 4, 2009, *available at* <<http://www.chk.com/Investors/Documents/Current%20Outlook.pdf>>.

⁷ Current Report on Form 8-K of TXU Corp., dated June 6, 2006, *available at* <<http://www.sec.gov/Archives/edgar/data/1023291/000102329106000018/form8k.htm>>.

⁸ 107,098 GWh TXU generation / 4,064,702 GWh total US generation. *See* Energy Information Administration, Summary Statistics for the United States (July 10, 2009), *available at* <<http://www.eia.doe.gov/cneaf/electricity/epa/epaxlfiles1.pdf>> and TXU Annual Report 2006, *available at* <http://www.energyfutureholdings.com/financial/corp_gov_docs/txu2006ar.pdf>. Data as of 2006. More recent information is publicly unavailable due to TXU’s conversion to a private company.

During bid week, commercial participants see their exposure to natural gas prices increase as floating index prices are being set. As such, these physical market participants depend on highly liquid financial instruments to manage their rapidly changing financial exposure. This is precisely when the new NYMEX rule would limit the ability of the market maker to provide liquidity.

2. *The Effects of Restricting Speculators*

The exchange conducts a continuous auction every trading day. Every trader, from individuals to large companies, competes only on the basis of price. The auction identifies the best buyer and the best seller for each contract. If the proposed position limits take effect, the commercial hedger would no longer transact with the best buyer/seller, but instead with the best buyer/seller among a narrower universe of participants – those who have less than 1,000 contracts of open interest. Chesapeake's production alone (7,260 contract equivalents per month) would absorb the full capacity of seven speculators. This will decrease liquidity and increase transaction costs for the commercial hedger.

In addition, due to the asymmetric risk of being short versus being long and the widespread belief that energy prices generally rise over time, most small speculators are reluctant to short the commodity. The Commission's Commitment of Traders Report indicates that, in the past ten years, small speculators as a class have only been net short natural gas one week out of the 522 weeks of data (see Appendix 3). Further, the net long position of the small speculators has been steadily increasing over time. Decreasing the number of large speculators in the market would lead to a market less reflective of fair value in the forward curve and, at least in the short term, higher energy prices by replacing a speculator willing to short with one that apparently is not.

D. ***The Commission Should Suspend and Reevaluate Recent NYMEX Rules on Financial Contracts***

We believe that position limits on financial contracts will decrease liquidity, increase transaction costs and increase volatility associated with expiration – all without achieving any of the reforms that the Commission seeks. If allowed to take effect in September, the new NYMEX limits rules will induce unnecessary volatility in natural gas prices in the days leading up to the October expiration, a time period that is already historically volatile. Liquidity in financial instruments during bid week, when industry exposure is at its greatest, will decline. Physical positions will be difficult to hedge, and option positions will be extremely difficult to manage.⁹ Moreover, swap dealers will require significant hedge exemptions, if they choose to trade on the exchange at all. Traders will opt to revert to the less efficient and more opaque over-the-counter markets.

⁹ Appendix 4 discusses various issues that arise with respect to options if the NYMEX were to implement position limits on financially settled contracts.

All of this will translate into increased volatility, reduced liquidity and higher costs for commercial hedgers.

We urge the Commission to direct the NYMEX to suspend its rule on hard position limits until the Commission has reviewed and considered the testimony and evidence from these hearings. We are already seeing an adverse impact from the pending NYMEX rule. The head of one of the largest brokerage firms in the United States recently commented, with respect to the NYMEX rule changes, “Markets are declining measurably. A number of market users were so stunned by [the new limits] and simply pulled out of the market.”¹⁰

¹⁰ “Traders Balk at Plans to Limit Natural-Gas Trades,” *Wall St. Journal*, July 29, 2009, at A24.

Appendices

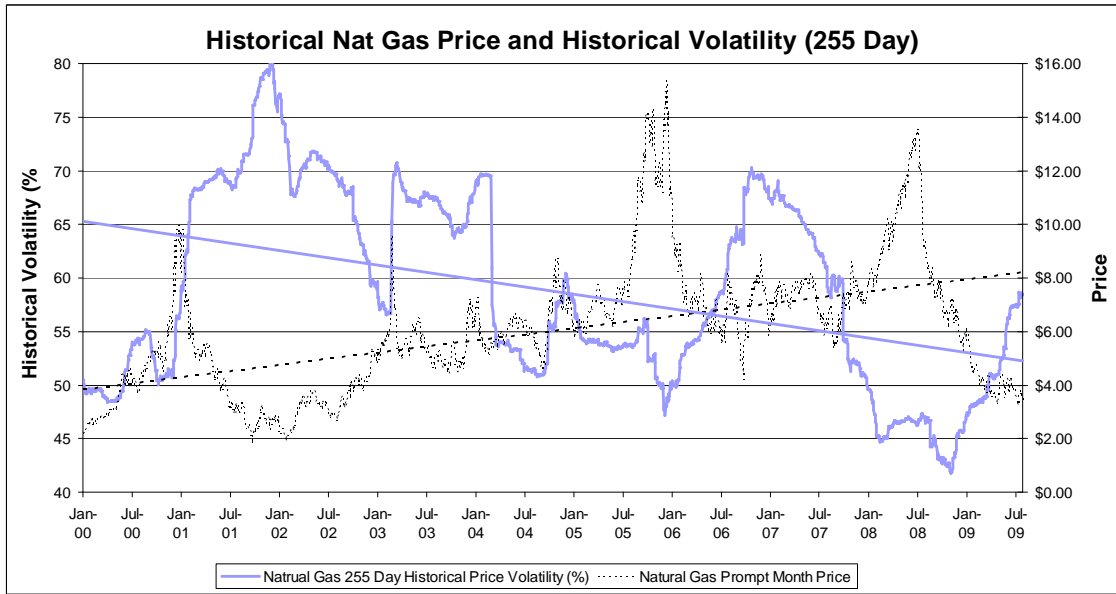
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| Appendix 1 | Volatility of Expiration and Bid Week Prices Relative to Other Trading Days |
| Appendix 2 | Historical Natural Gas Price Volatility (1 year rolling) |
| Appendix 3 | Natural Gas Non-Reportable Net Position from Commitment of Traders Report |
| Appendix 4 | NYMEX Rule Amendments: Issues Relating to Options |

Appendix 1

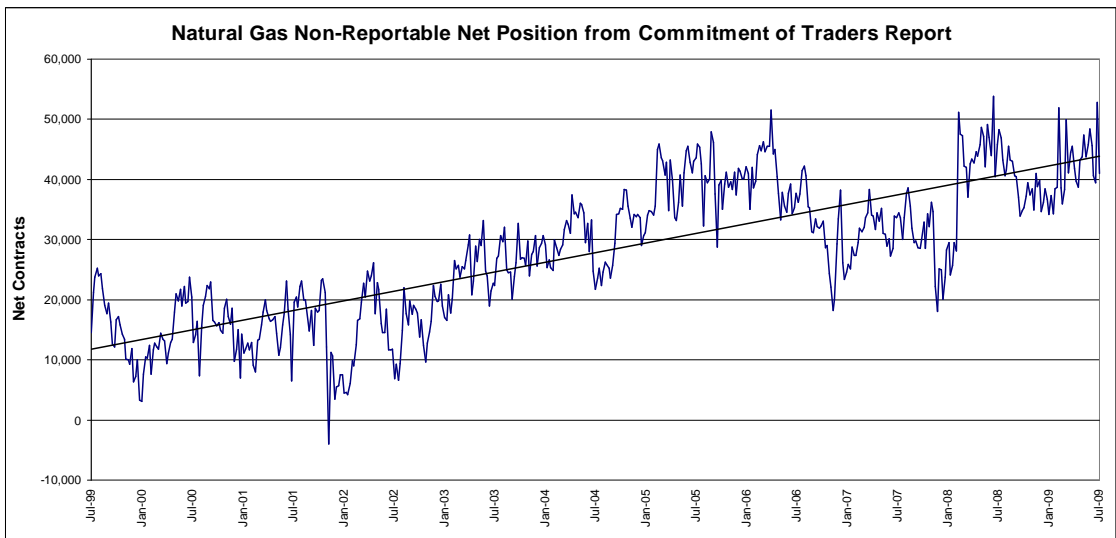
Period	Dates	Expiration Day (T)	T-1	T-2	T-3	Bid Week Average of last 3 days (T,T-1,T-2)	Not Bid Week All days other than bid week	Percentage increase (decrease) in volatility of		
								Last day vs not bid week	Bid week vs not bid week	T-3 vs bid week
All Data	May '04-Aug '09	3.23%	2.28%	2.57%	2.61%	2.70%	2.57%	26%	5%	-3%
Combined Physical and Financial Nymex Limits Between First and Second Nymex Rule Changes Since Present Rules Enacted	Apr '04-Sep '06 (30 months)	3.78%	2.68%	2.95%	2.25%	3.14%	2.45%	55%	28%	-28%
	Oct '06-Feb '07	4.77%	3.82%	4.23%	2.49%	3.33%	3.23%	48%	3%	-25%
	Mar '07-Aug '09 (30 months)	2.52%	1.73%	1.93%	2.79%	2.06%	2.45%	3%	-16%	35%
Combined Physical and Financial Nymex Limits Limits Applied to Physical Only	Dec '03-Oct '06 (35 months)	3.63%	2.55%	2.90%	2.48%	3.03%	2.59%	40%	17%	-18%
	Oct '06-Aug '09 (35 months)	2.84%	2.03%	2.26%	2.75%	2.38%	2.56%	11%	-7%	16%

#s in bold are mentioned in report

Appendix 2



Appendix 3



Appendix 4

June 5 NYMEX Rule Amendments: Issues Relating to Options

The new NYMEX limits on financially-settled contracts cause particular difficulty in managing an options portfolio. Options in natural gas expire the day before expiry. Yet financial position limits are scheduled to start two days prior to options expiry. Currently, the NYMEX includes option deltas in computing a trader's total position with respect to limits.

We highlight below a number of issues that would arise with respect to options if the June 2009 NYMEX rule amendments were to take effect:

1. Presently all position limits apply both to close of business and intraday positions. A futures position does not change during the day unless new trades are executed. With options this is not the case. Option Greeks (gamma, theta, and vega) can create a position violation without new trades. Every change in price, implied volatility and time remaining to expiration changes the delta of an options book. It is unclear whether the NYMEX even has a mechanism to track intraday gamma on a position, and even less clear how position limits will be calculated or enforced on expiration day.
2. Methodologies for determining delta positions differ broadly across the industry. It would be extremely difficult to reconcile these different methodologies for the purpose of complying with position limits at option expiration. Traders use different models (Black-Scholes, Binomial, Jump Diffusion, Monte Carlo, etc.), and different inputs into these models, to determine proper hedge ratios. These invariably differ from the model (and the inputs) that the exchange has chosen to determine official positions. A trader with a large option book may view his or her exposure as significantly different than the exposure that the exchange's model indicates. Limits on financial positions will force traders to use the exchange's methodology for pricing and hedging options even though most traders disagree with the output.

This also assumes formulaic deltas and gammas are relevant as time becomes short. Trading options at expiry is often more art than science. The models tend to break down as time gets short. The question also remains of which models are appropriate, how they handle time and exactly at what time they are run. It seems unlikely that the exchange and the portfolio manager will be in agreement on what the option position is on the relevant day. Will the trader have to conform to the exchange models whether they are correct or not? One can easily envision a scenario where a 10,000 lot option position results in a delta greater than 1,000 lots by the exchange's calculation, but where the trader sees that same delta as 0 at the time the market opens. Would the trader be required to hedge to the exchange's delta calculation? If

so, it would be virtually impossible to manage a portfolio with multiple strikes that is much more complicated than a single option position.

3. The risk between buying an option and writing an option is asymmetric. Whereas buying an option has very limited risk, writing an option results in unlimited risk. Commercial market participants often buy options as insurance protection. Most of these options are written by financial players, such as banks and speculators. The difficulty managing the position is much more acute for the writer of the option, as the writer has significantly greater financial risk. Nevertheless, complying with the limits at option expiration could be impossible from either side.
4. The following is another example of the new NYMEX rule's lack of clarity. Suppose a trader entered the day with 5,000 financial calls, actually agreed with the exchange delta of .40, and held a 2,000 equivalent financial future short. Entering the day, he would be flat. Let us suppose that he did nothing all day. Did he violate limits? Clearly, by the end of the day he was either long 3,000 or short 2,000, but everything expires at that point. Conversely, what if he acts? Suppose that the market rallies on the open of the penultimate day. The trader calculates that his delta is now .70 and sells another 1,500 lots. Will that register as a violation? Does the NYMEX need to approve that sale? The NYMEX does not see the change in delta, but it does see the futures trade. If later in the day the market declines, is the trader required to repurchase those contracts?
5. A similar ambiguity arises in the case of the pure limited risk trade. While positions such as this are sometimes used by hedgers, we will address it from the position of the speculator. Suppose a speculator desires to express a bearish view on winter prices but wants limited downside. He may decide to buy 2,000 January \$5.00/\$4.00 financial put spreads for \$0.20. Carried through expiration, this position would have a pure 4:1 payout possibility. If at expiration the January contract is trading \$5.50, there is no issue as the position is flat. The same is true if the contract is trading \$3.50. However, if the contract is trading \$4.50, the trader, under the new limit regime, will be over limits and forced to sell the options or sell futures to decrease the delta.
6. It is unclear how limits will be handled between the financial contracts that settle on penultimate (NYMEX Codes HP, LN, NP, QG) and those that settle ultimate (HH, NN, E7). The only really actively traded instruments are the LN, which is the penultimate financially-settled option, and the NN, which is the financially-settled natural gas contract that is used to manage the LN position. Of even more concern is that the ICE HH LD1 is the preferred product for managing the exposure, since it is more liquid than NN, and it will not be netted for limits purposes without a hedge exemption.

7. Given these issues, we do not believe that an option portfolio created by an active market-maker is manageable under the NYMEX rules that will be in effect in September. Liquidity in exchange traded options is already falling as a result of the pending rule, and if the rule takes effect existing positions will have to find a way to move over-the-counter.