

THE AFP® EXECUTIVE INSTITUTE

Strategic Content for Financial Executives

Session: 76

Energy and its Impact on Global Financial Markets

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10/10/2005
4:15 p.m. – 5:15 p.m.
201

Session: 76

Energy and its Impact on Global Financial Markets

The panel will discuss the impacts on global financial markets due to the fluctuations of oil and other sources of energy. What is impacting the energy market today? Tomorrow? OPEC, world-wide supply and demand, the Iraqi situation and other factors. Learn about hedging strategies to be used for mitigating exposure to these risks.

Learning Objectives

- Understand where their companies may be exposed to energy risks
- Understand how these markets are interrelated and the impacts to the company
- Learn when and how to identify the trading strategy to employ with each of the aforementioned factors
- The role of transparency & liquidity in price discovery along the curve

Pre-requisites

- None

Take Aways

- NYMEX Brochures

Market Overview & Hedging Presentation to AFP



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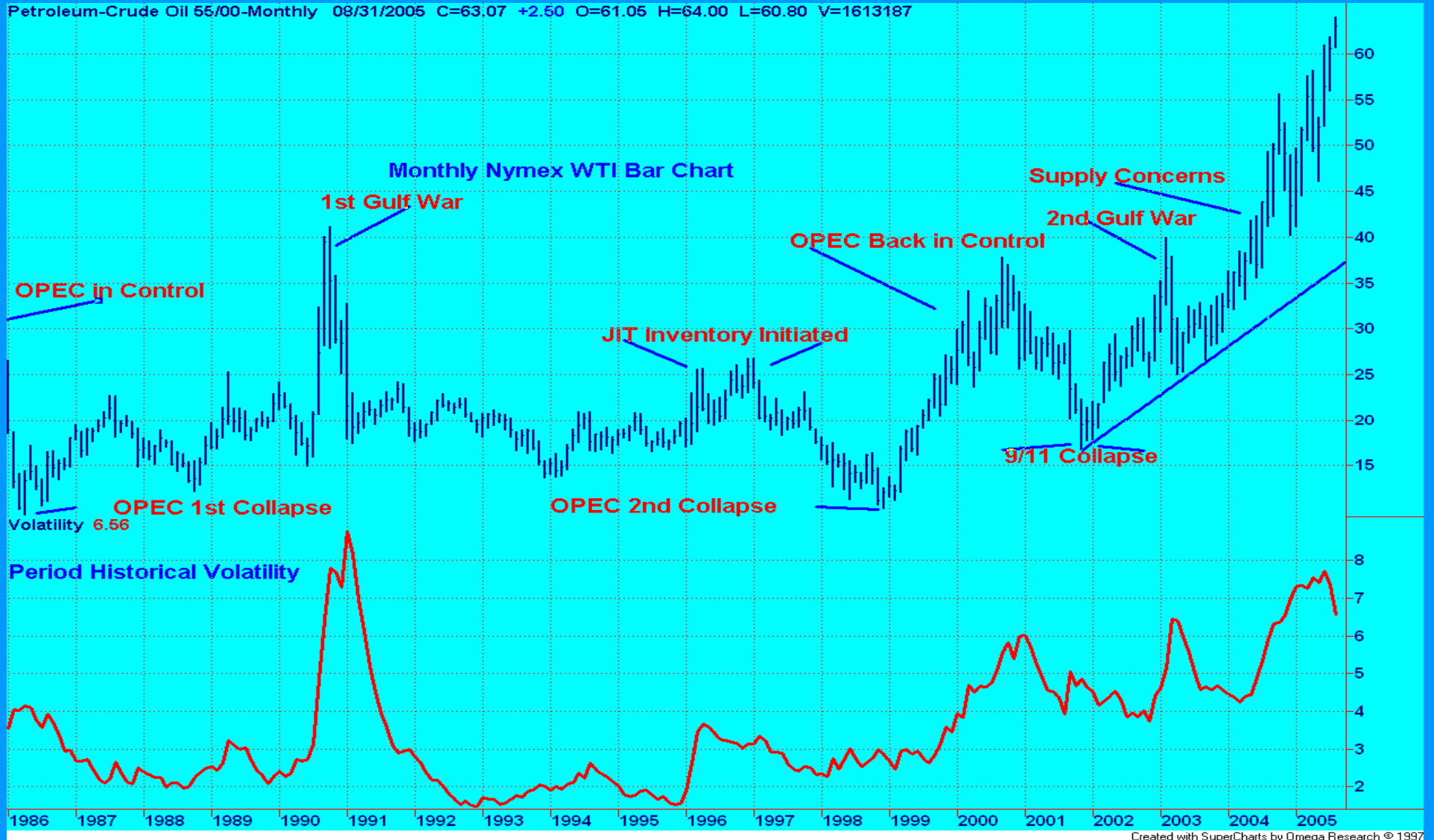
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grutledge@NYMEX.com

Major Price Moves 1970 - 2005

| Decade | Period | Main Driver(s) | Inc/(Decr) | Range |
|--------|--------------------------|--------------------------|------------|-------------------|
| 1970's | 4Q73 - 2Q74 | Arab Oil Embargo | \$6.00 | \$4.50 - \$10.50 |
| | 2Q74 - 2Q78 | Slow Growth | \$2.20 | \$10.50 - \$12.70 |
| | 2Q78 - 4Q79 | Iranian Revolution | \$25.85 | \$12.70 - \$38.55 |
| 1980's | 4Q79 - Nov 85 | Eroding OPEC Share | (\$8.70) | \$38.55 - \$29.85 |
| | Nov 85 - Jul 86 | Saudi Expansion | (\$20.30) | \$29.85 - \$9.55 |
| | Jul 86 - Jun 90 | Opec Consolidation | \$6.35 | \$9.55 - \$15.90 |
| 1990's | Jun 90 - Oct 90 | Iraqi Invasion | \$23.68 | \$15.90 - \$39.58 |
| | Oct 90 - Jun 91 | Allied Response | (\$21.58) | \$39.58 - 18.00 |
| | Jun 91 - Oct 97 | Asian Demand Growth | \$5.18 | \$18.00 - \$23.18 |
| | Oct 97 - Feb 99 | Asian Collapse, Weather | (\$13.11) | \$23.18 - \$10.07 |
| | Feb 99 - Mar 00 | OPEC Restraint | \$24.06 | \$10.07 - \$34.13 |
| 2000's | Mar 00-Dec 01 | Overproduction/Recession | (\$13.72) | \$34.13 - \$20.41 |
| | Jan 01 - Dec 2 | OPEC Restraint | \$6.83 | \$20.41 - \$27.24 |
| | Dec 2 to Mar 12, 03 | Ven Strike, Pre-Iraq War | \$10.59 | \$27.24 - \$37.83 |
| | Mar 12 to Apr 29, 03 | Post War, OPEC | (\$12.59) | \$37.83 - \$25.24 |
| | Apr 29, 03 - Sep 22, 03 | Consolidation | \$1.72 | \$25.24 - \$26.96 |
| | Sep 22, 03 to Aug 10, 05 | Instability/Uncertainty | \$36.24 | \$26.96 - \$63.2 |

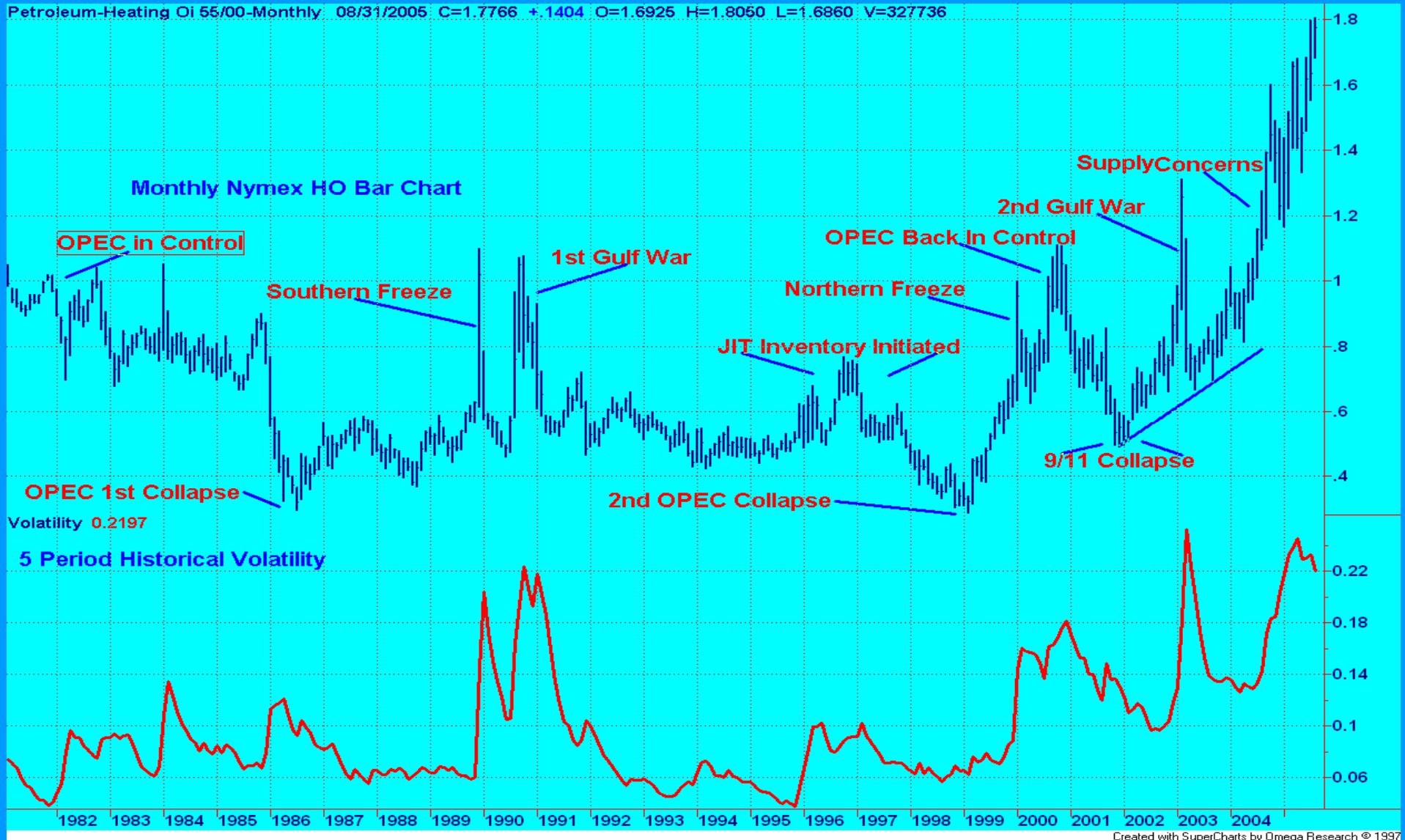
Spot Nymex WTI Crude Oil



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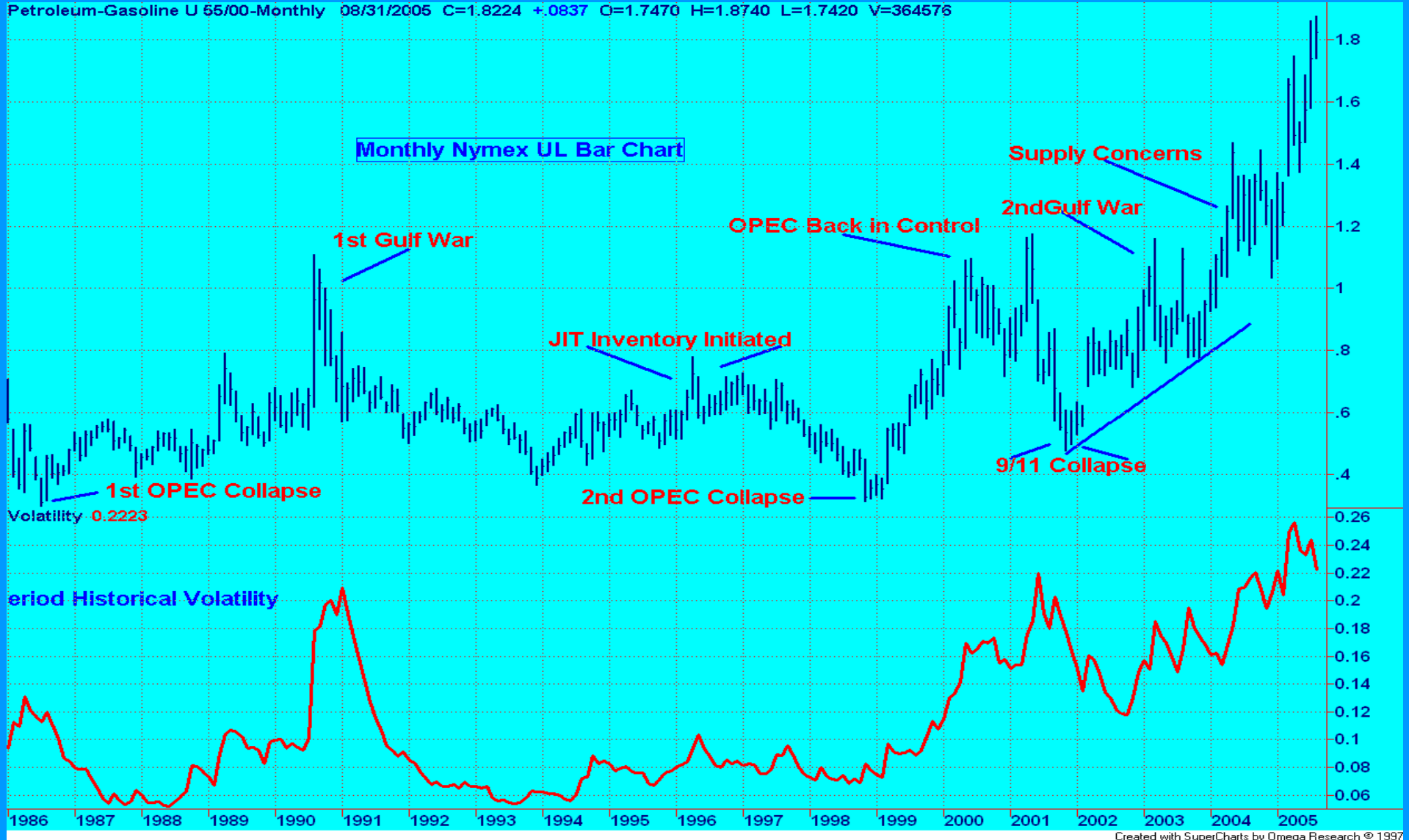
Spot Nymex Heating Oil



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Spot Nymex UL Gasoline

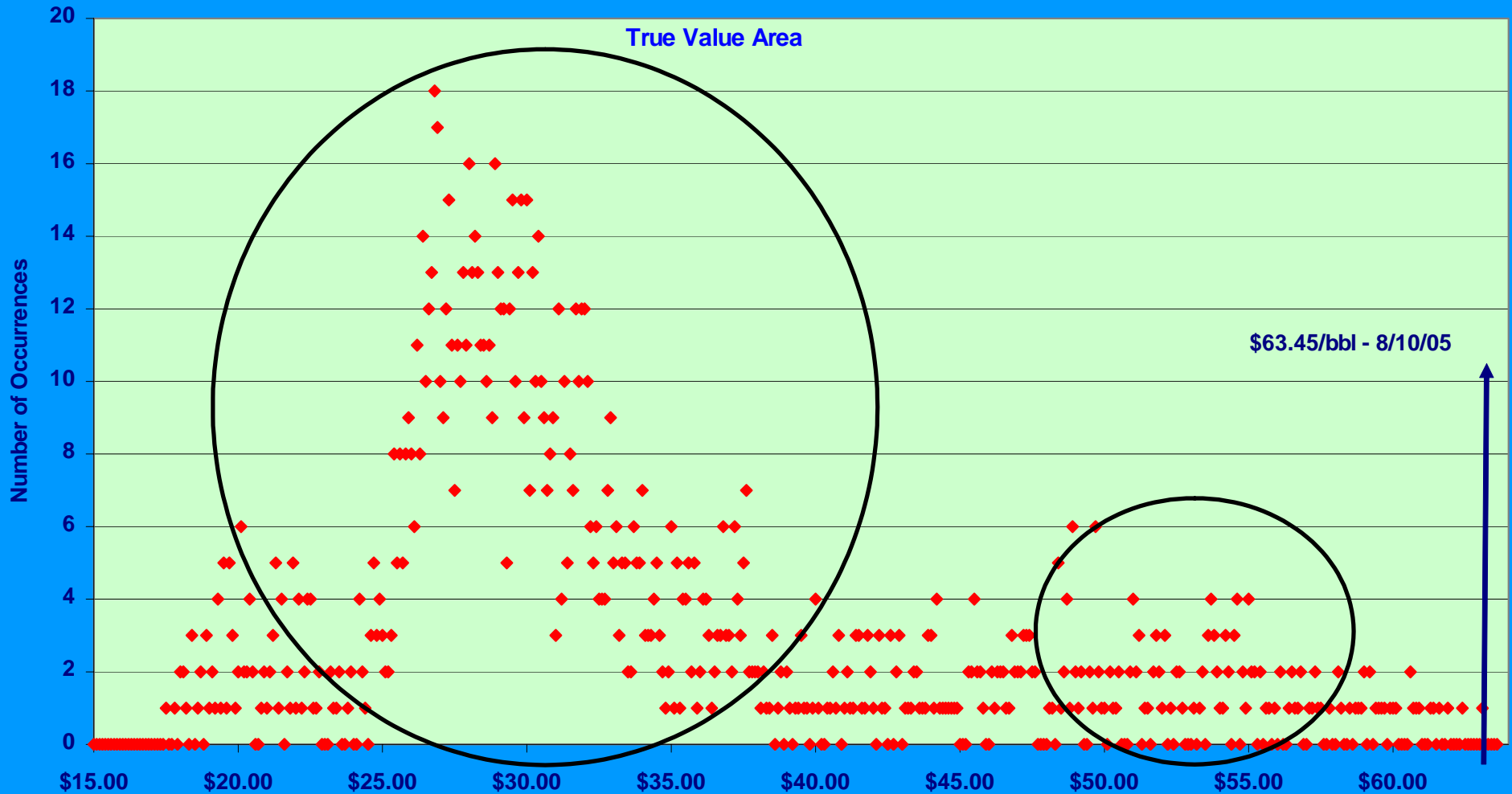


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WTI Frequency Distribution

Nymex WTI Frequency Distribution - 2000 to Present



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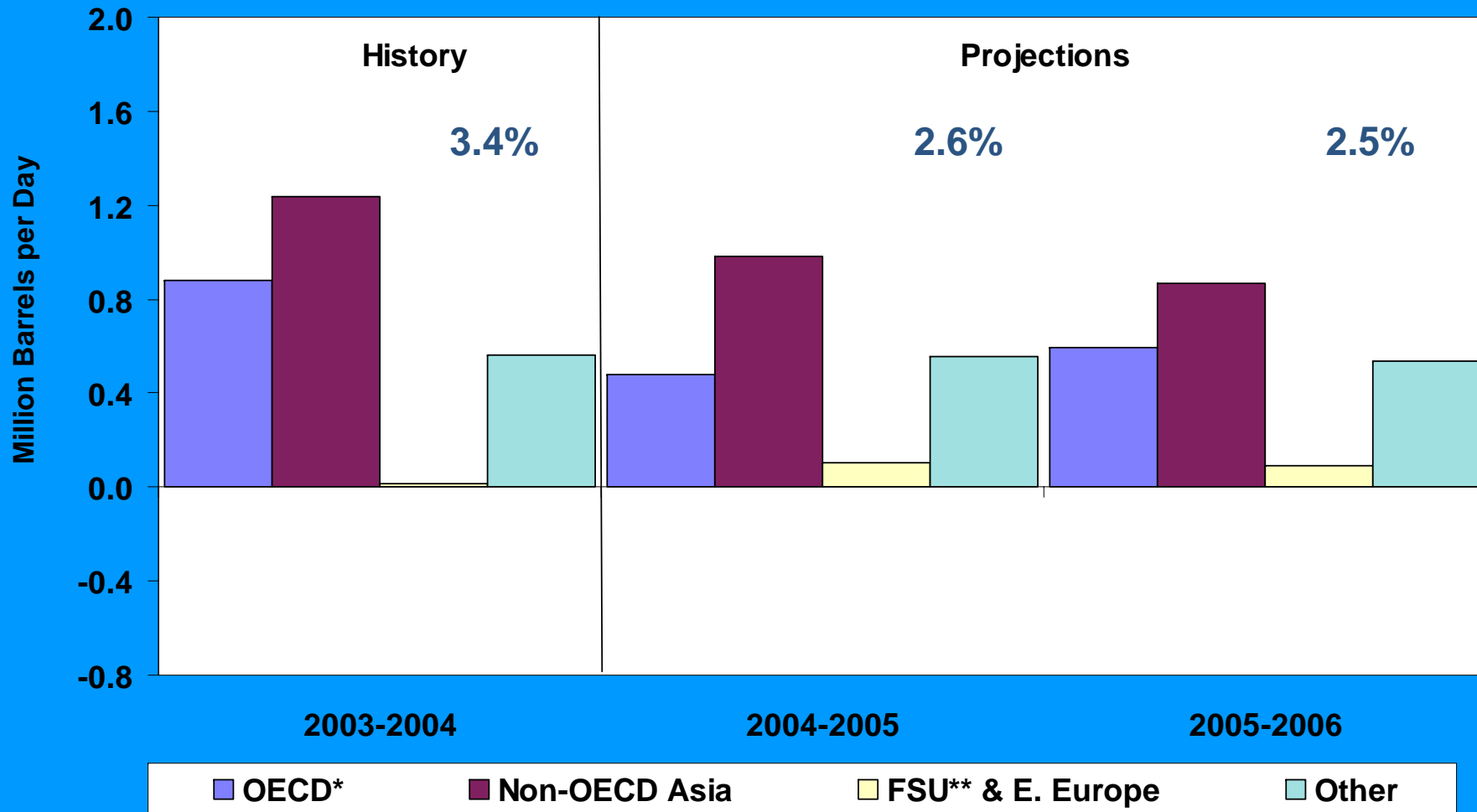
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Uncertainties For 2005/06

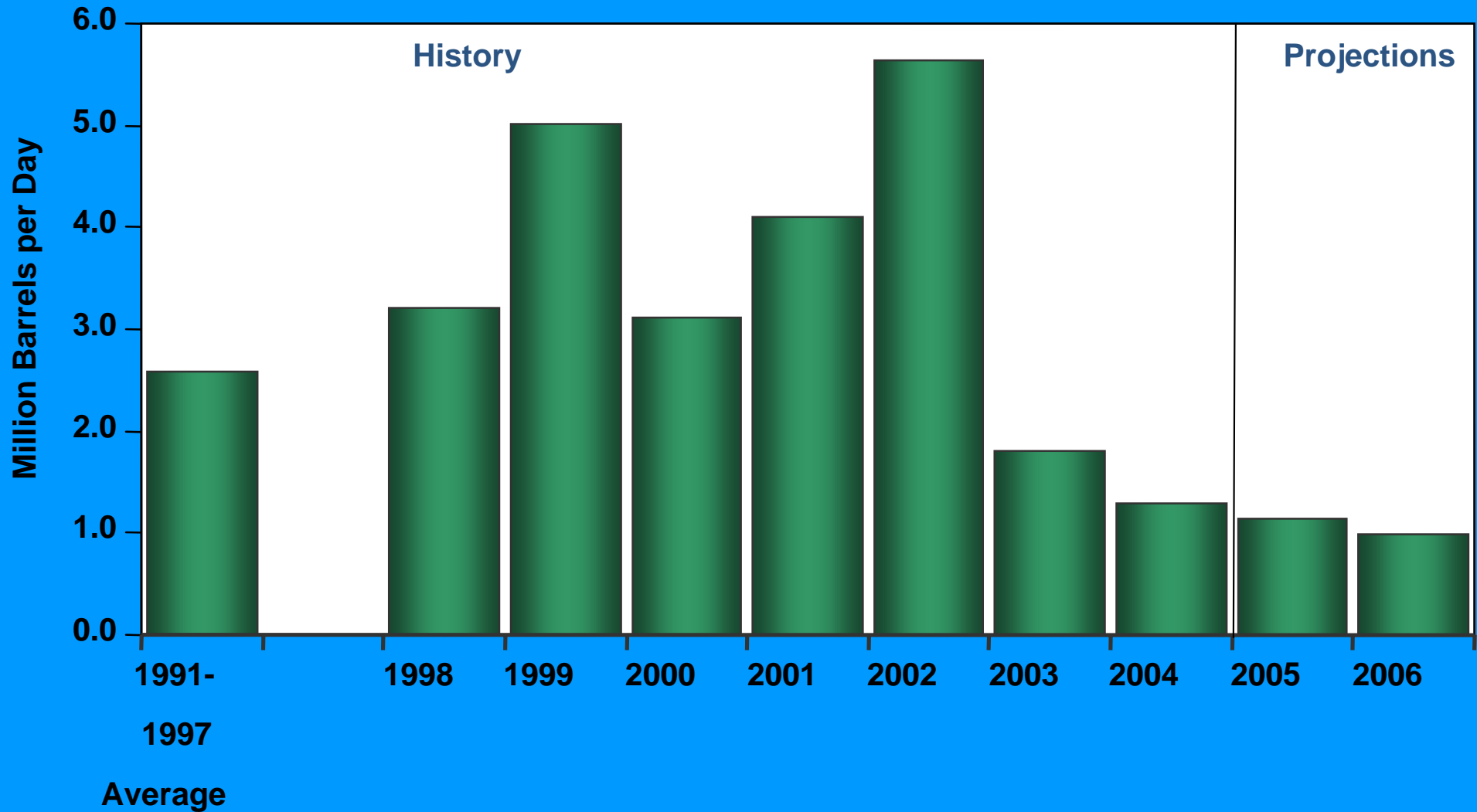
- Supply
 - Terrorist Acts on Oil Facilities
 - Iraq
 - How Much Production
 - When
 - OPEC 10 Crude Oil Production Volumes
 - Venezuela – Any More Unrest
 - Nigeria – Any More Unrest
 - Yukos Situation
 - Non-OPEC Supply

- Demand
 - Major Worldwide Economic Recovery
 - China
 - Weather

World Oil Demand Growth (Change from Year Ago)



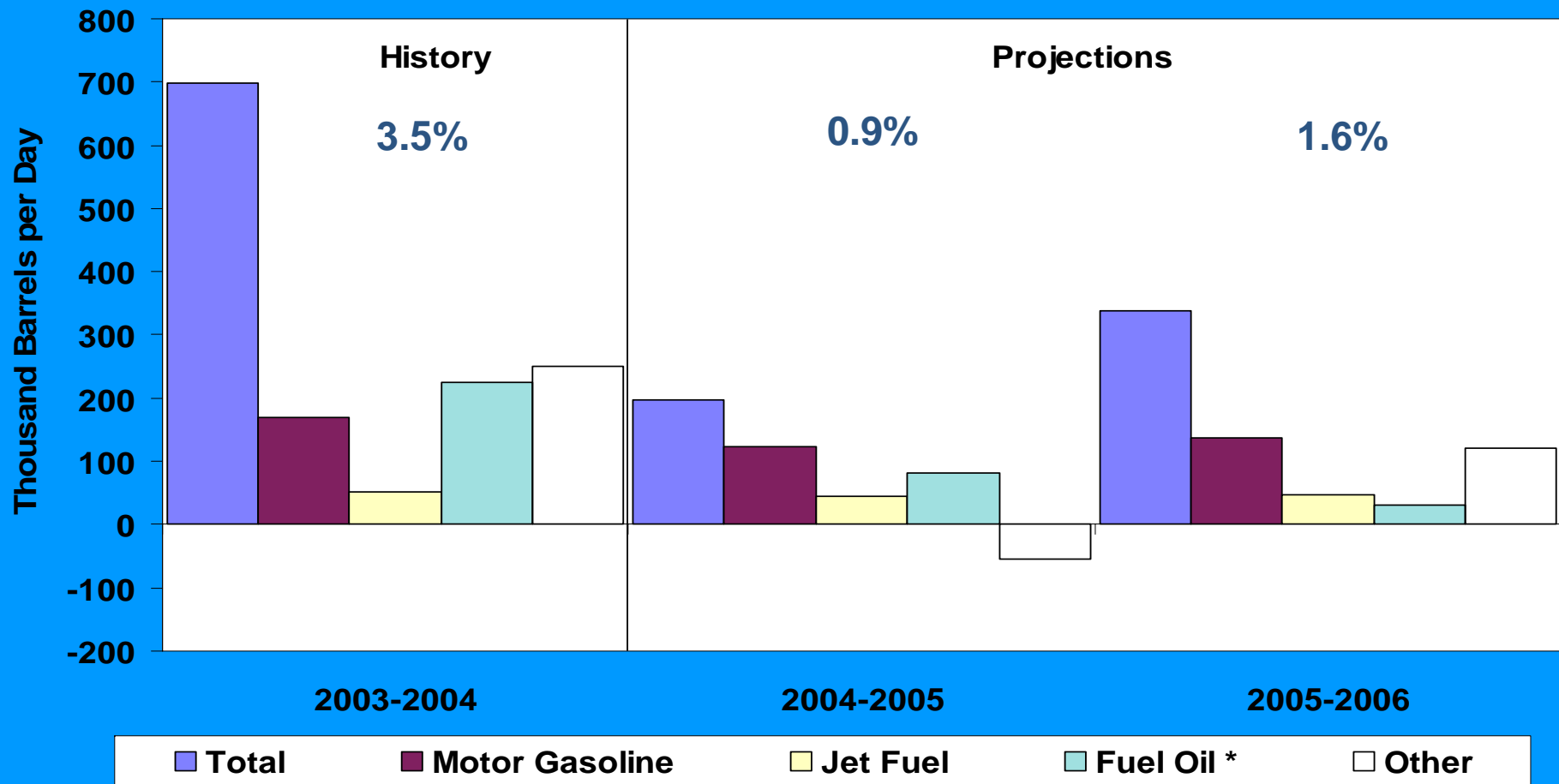
World Oil Spare Production Capacity



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U.S. Petroleum Products Demand Growth (Change from Year Ago)



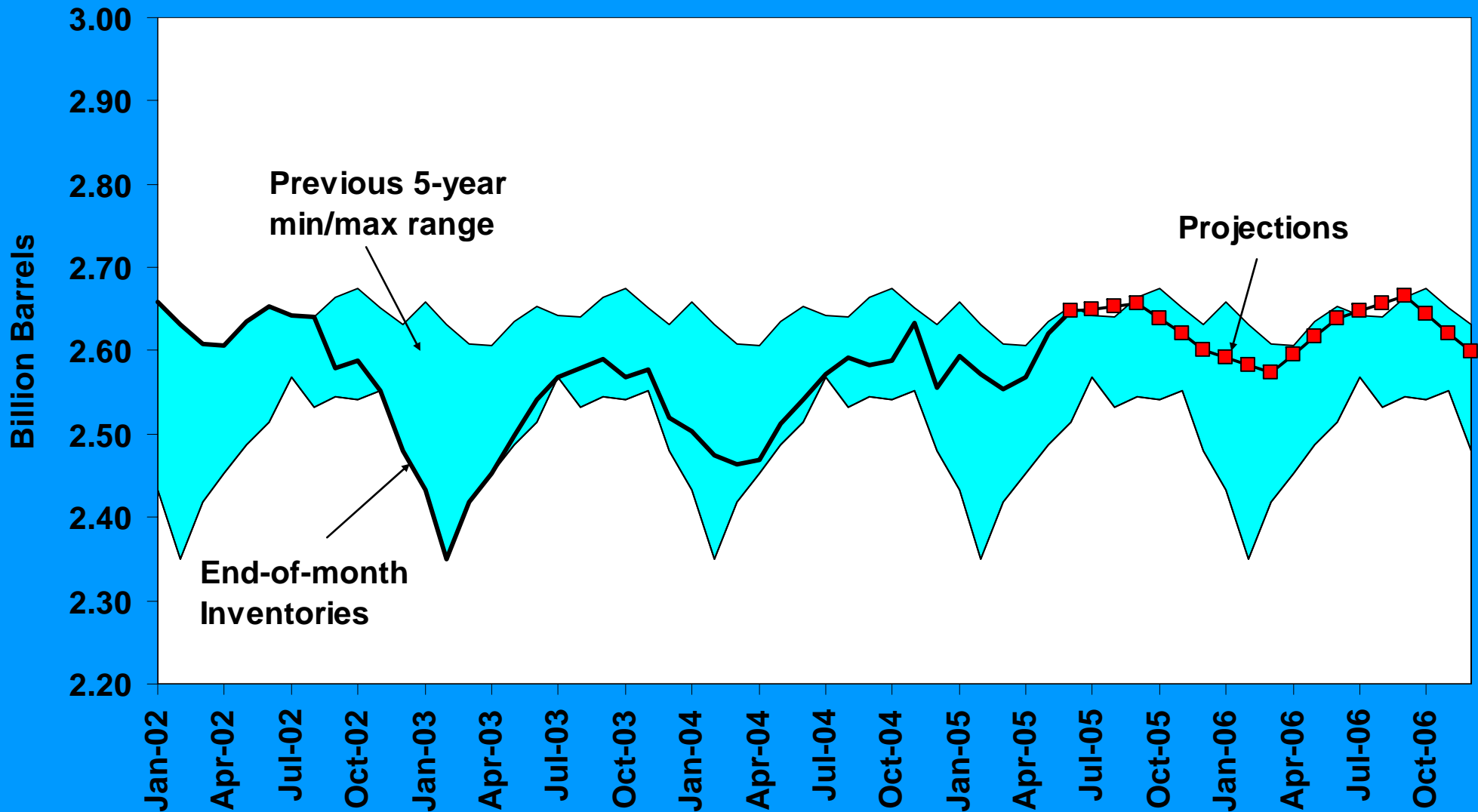
Mid East Resources – Hot Bed!



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OECD* Commercial Oil Stocks

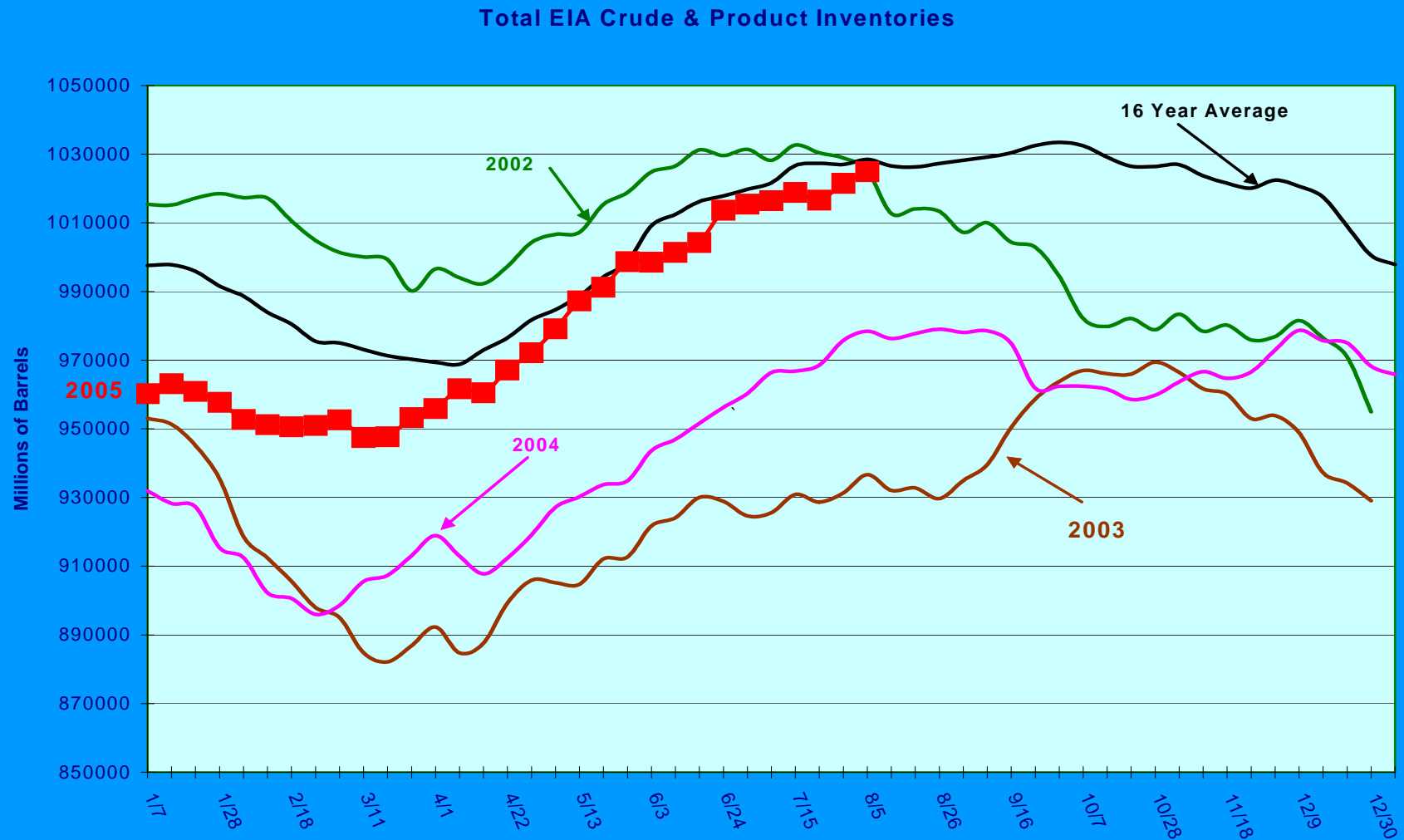


*Organization for Economic Cooperation and Development

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EIA Total Crude & Product Inventories

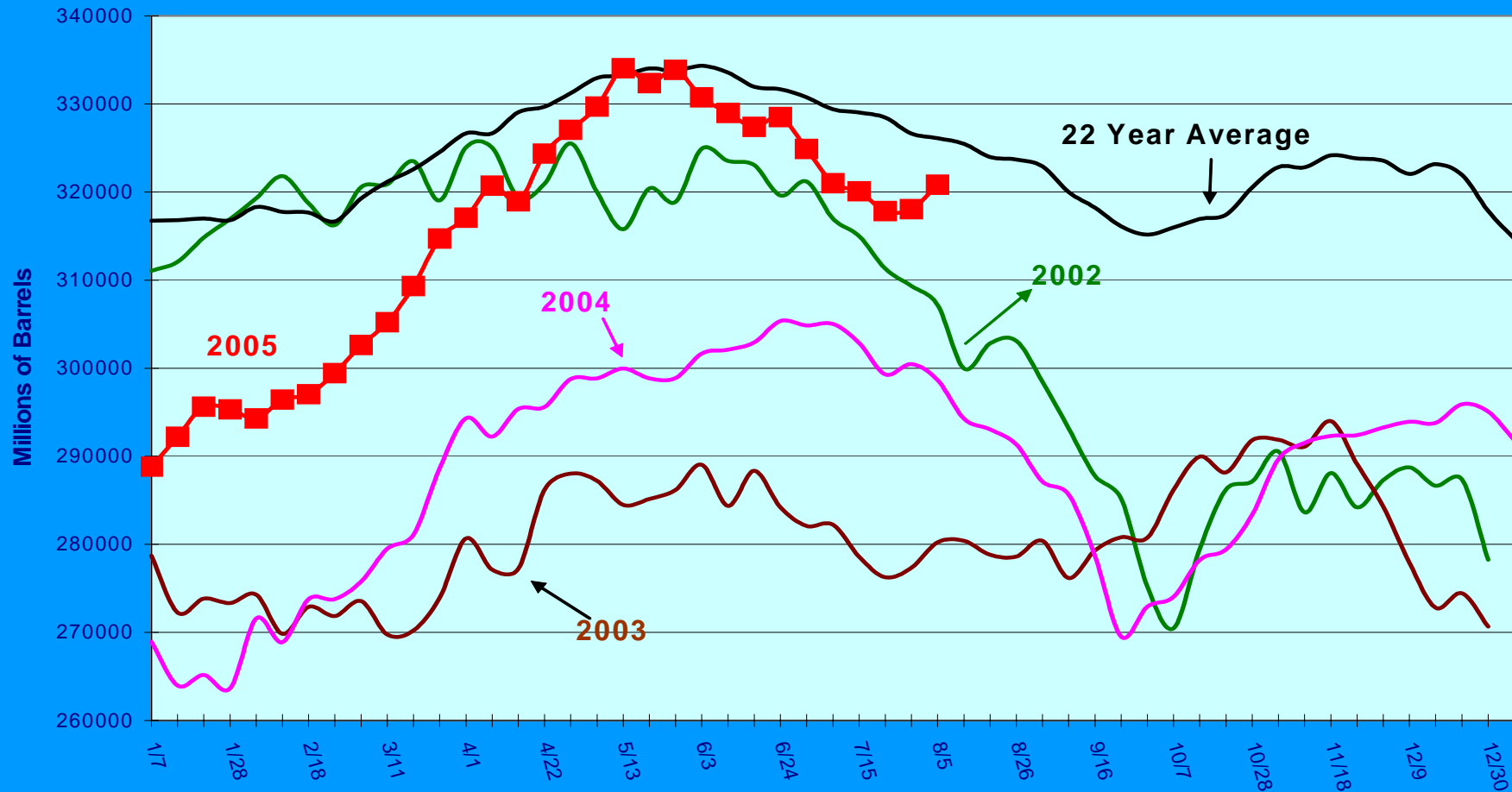


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EIA Crude Oil Inventories

Total Crude Inventory (EIA Data)

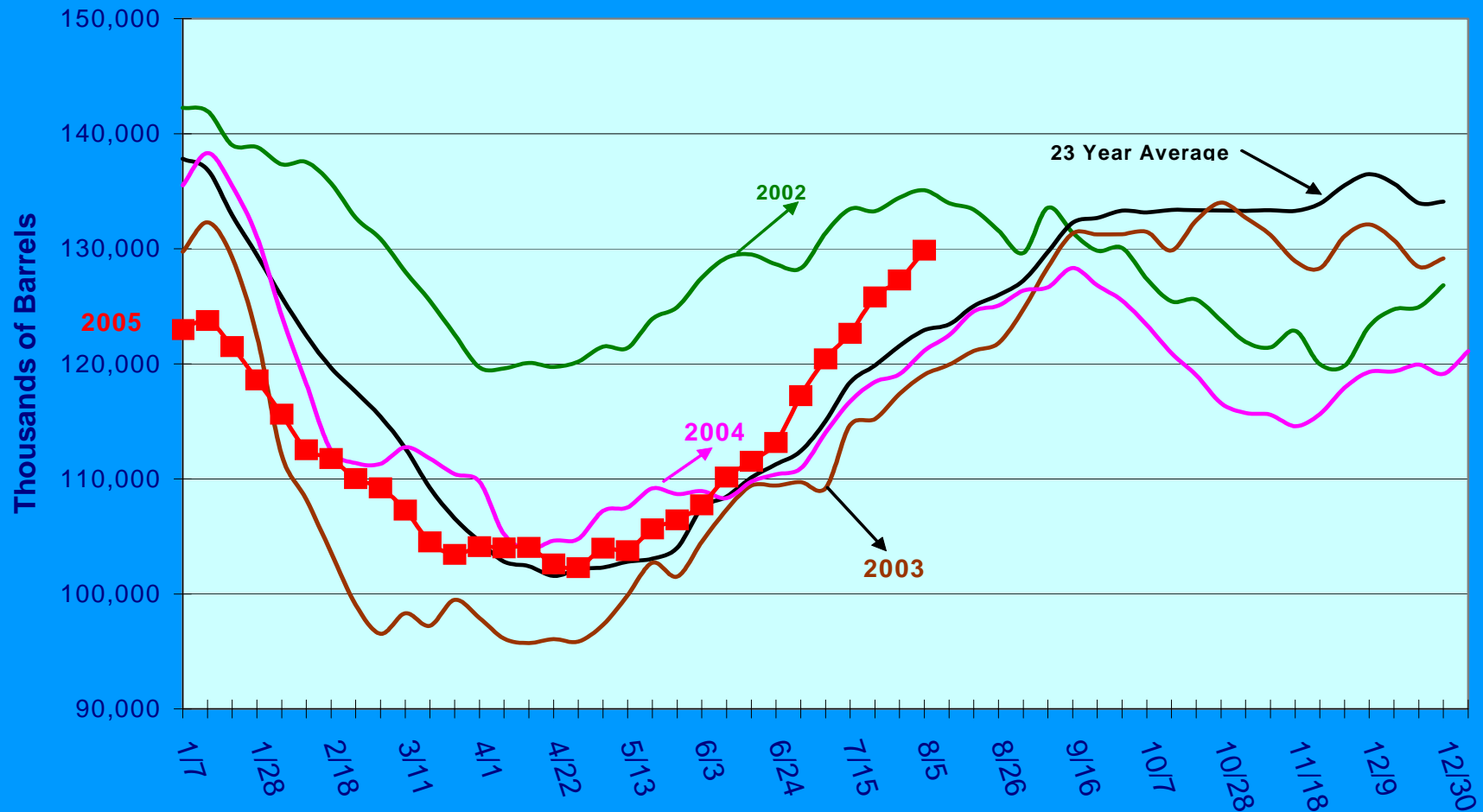


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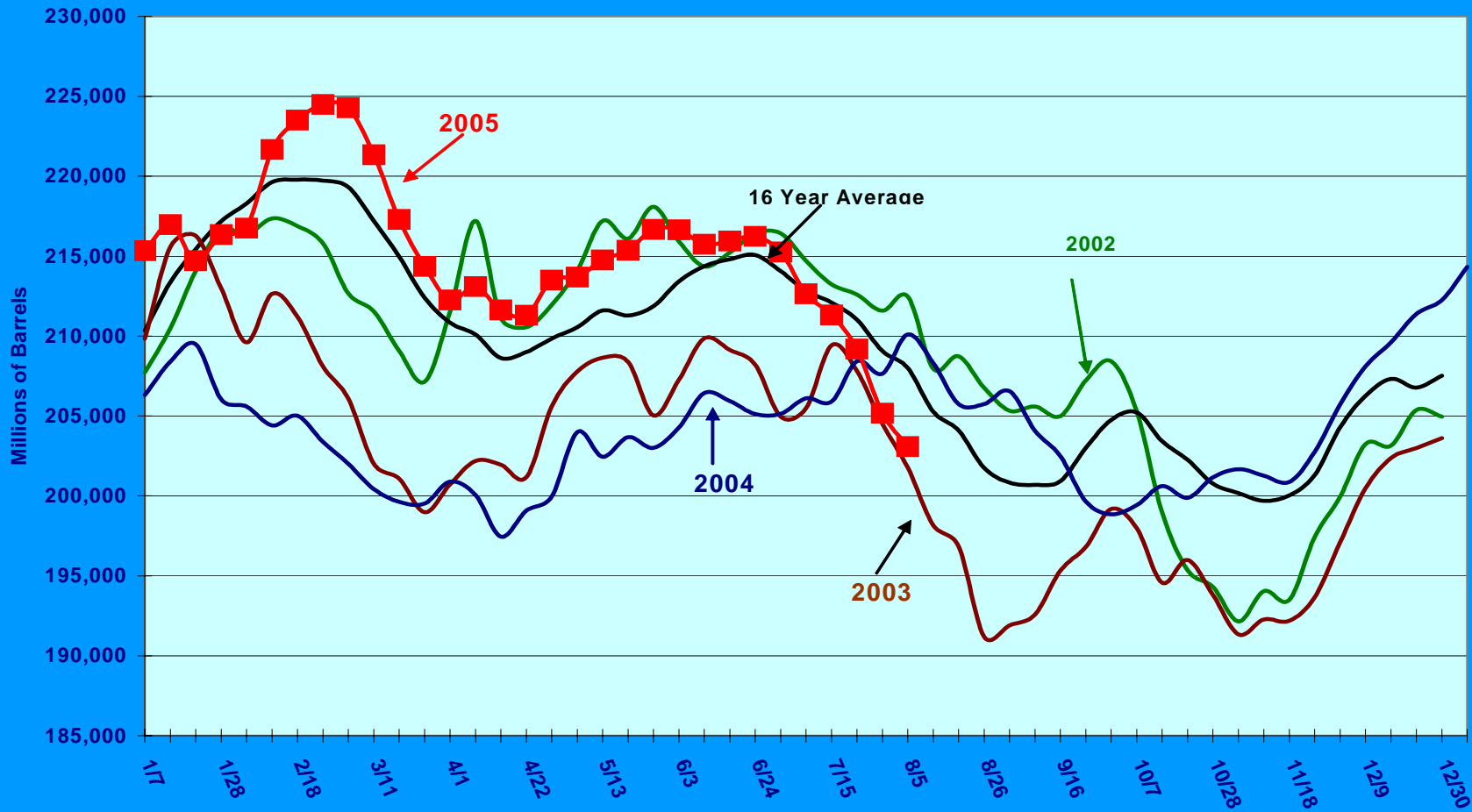
EIA Distillate Inventories

Total EIA Distillate Inventories



EIA Gasoline Inventories

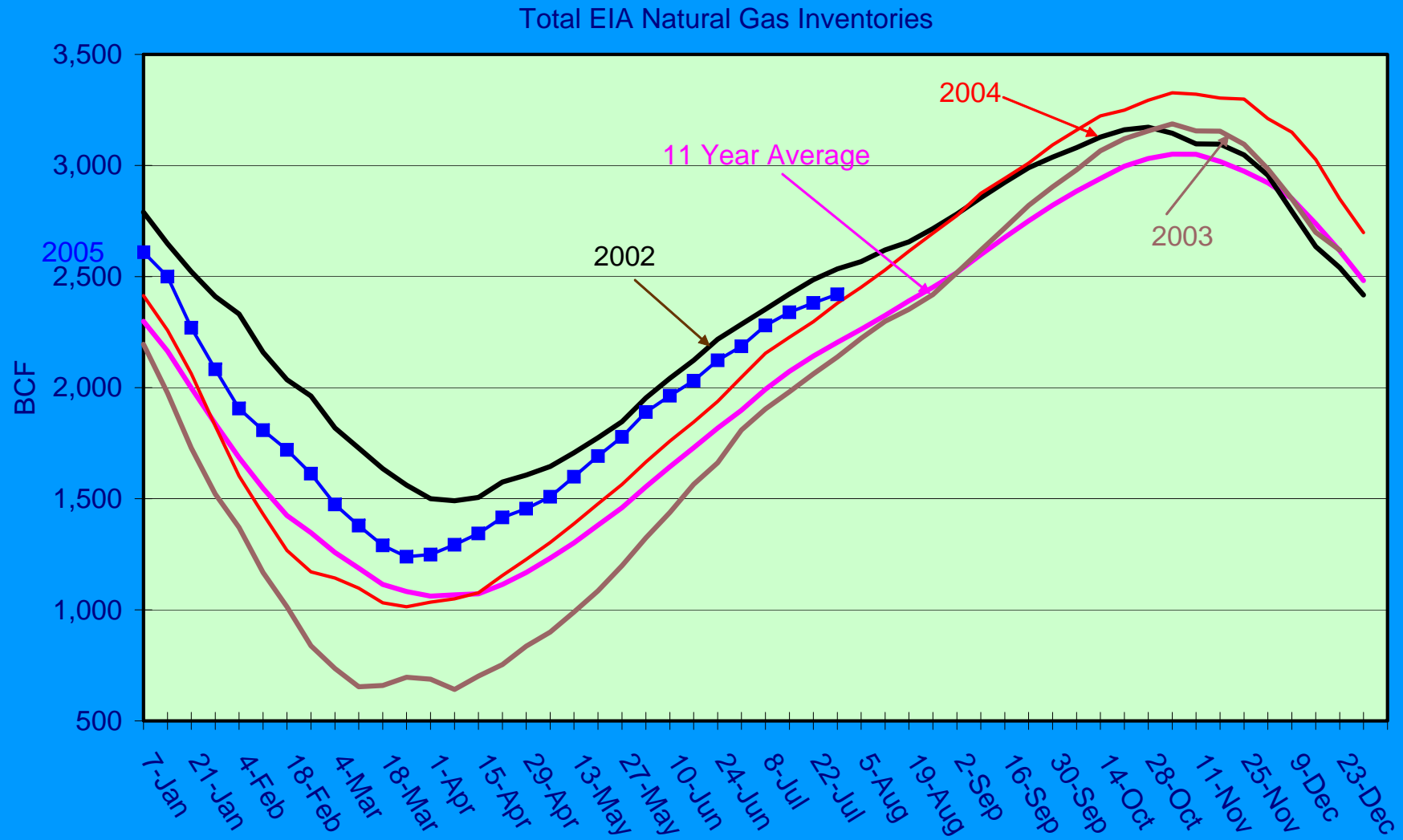
Total EIA Gasoline Inventories



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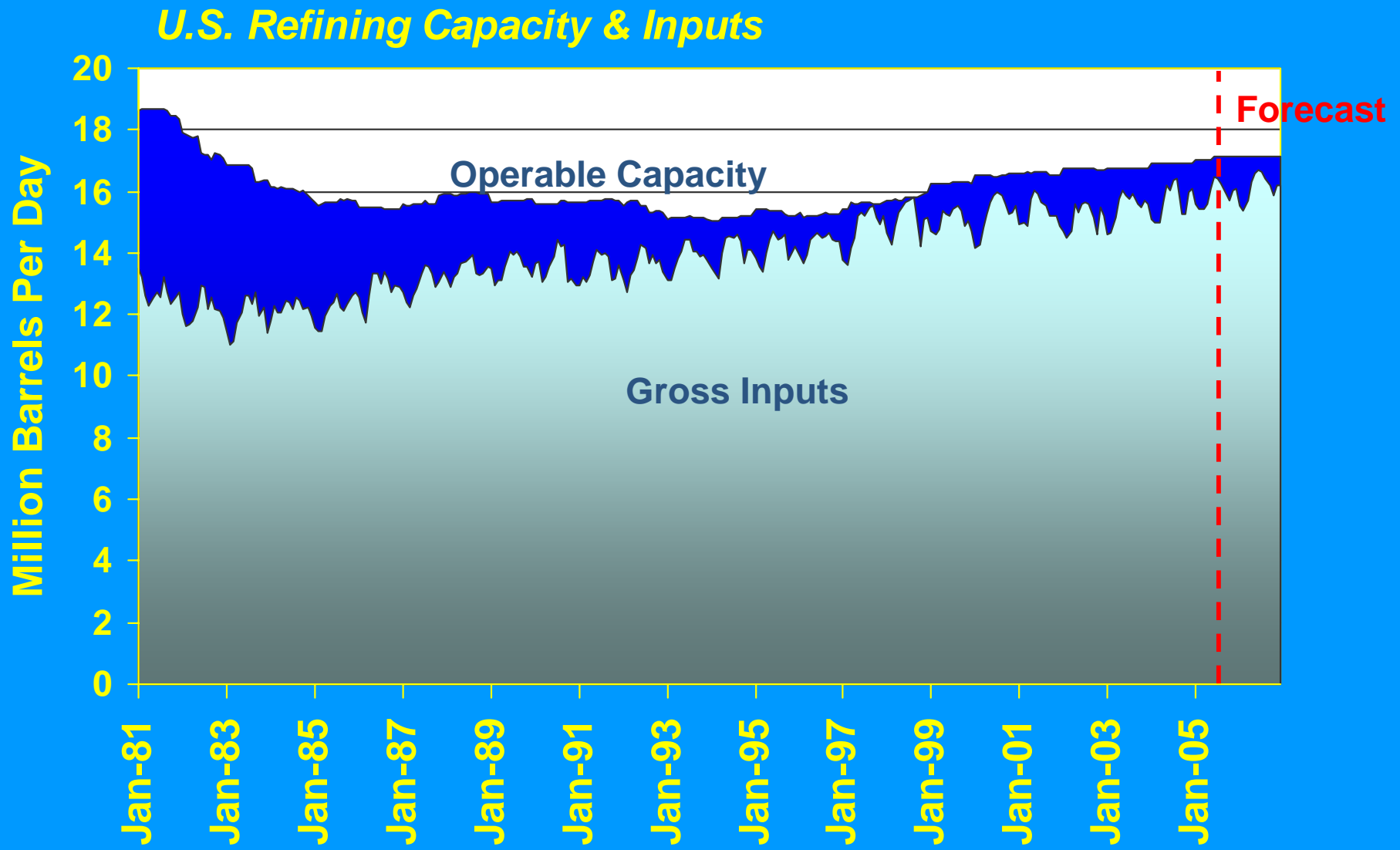
Total EIA NG Inventories



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Refining Capacity Surplus Disappearing, Creating Short-Term Challenge



Economy Growth -Daily S & P Chart



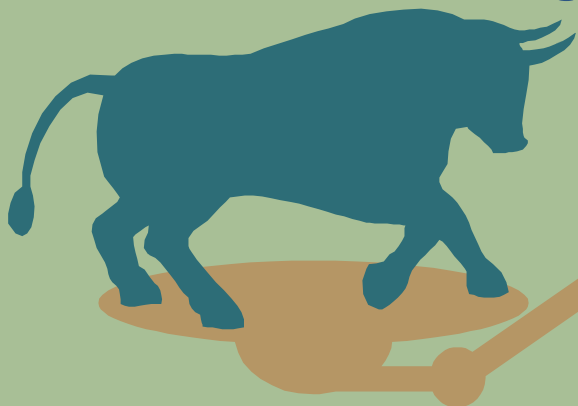
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Weighing the Market

Bulls

- Continued strong economic and oil demand growth
- Little spare capacity available
- Relatively low inventories
- Possible supply disruptions, including Iraq, Russia, Venezuela, Saudi Arabia, and Nigeria



Bears

- Slowing economic and oil demand growth
- More supply
- Inventory recovery
- More capacity growth
- Milder winter weather
- Easing supply risks

What is Risk Management

- The process of achieving the desired balance of risk and return through a particular hedging or trading strategy.
- Managing risk requires:
 - articulating
 - communicating
 - evaluating
 - achieving the company's risk/return balance

Designing a Risk Management Program

- Define price exposure
 - Quantity of crude oil
 - Type of crude oil
 - Structure of supply contracts
- Assess risk profile
- Define hedge objective
- Determine appropriate hedge strategy

Risk Management Procedures

- Establish Corporate Risk Policy
- Obtain Approval Of Risk Policy
- Designate Individual(s) Responsible For Hedging
- Establish Futures Account
- Design Risk Management Program
- Meet with Suppliers & Over the counter companies
- Implement Hedge Strategy
- Develop & Implement Marked to Market
- Monitor & Adjust Hedge Strategy

Hedge Examples

- Outright Futures Hedge Using Nymex HO
- Outright Option Hedge Using Nymex HO Options

Absolute & Basis Risk

Absolute & Basis Risk Houston Wholesale LSD & Nymex HO

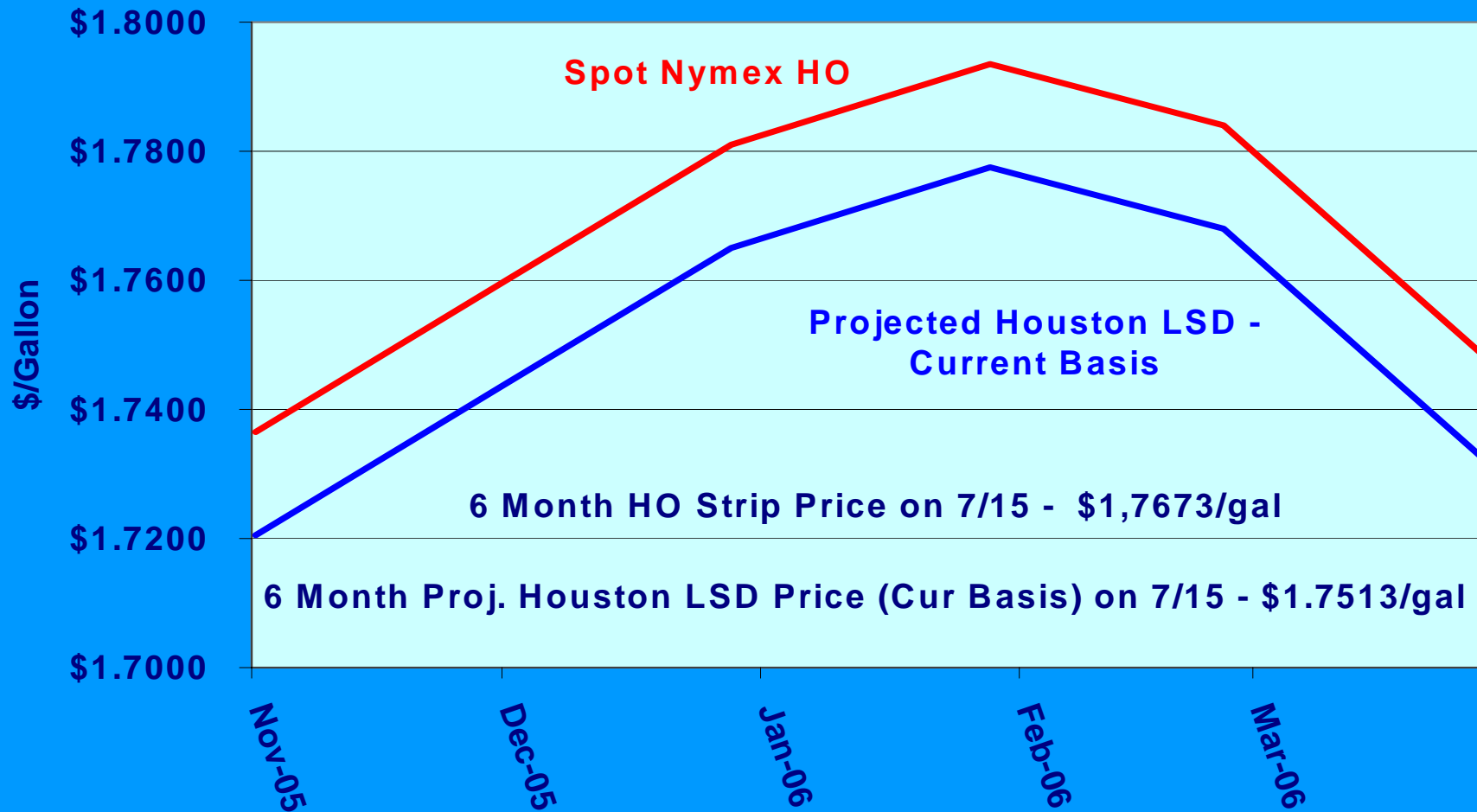


Outright Futures Hedge

- Hedge Winter Fuels (Oct, 05 thru Mar, 06)
Forward using Nymex HO Futures
- To Price Protect Transportation Company from Rising Prices (upside protection).
- This Hedge Requires Buying Nymex HO Futures
- We Will Buy the 6 Month Strip Ratably (same number of contracts each month)

Nymex HO & Proj. Houston LSD FC 7/15

Nymex HO & Houston LSD Forward Curve - 7/15/05



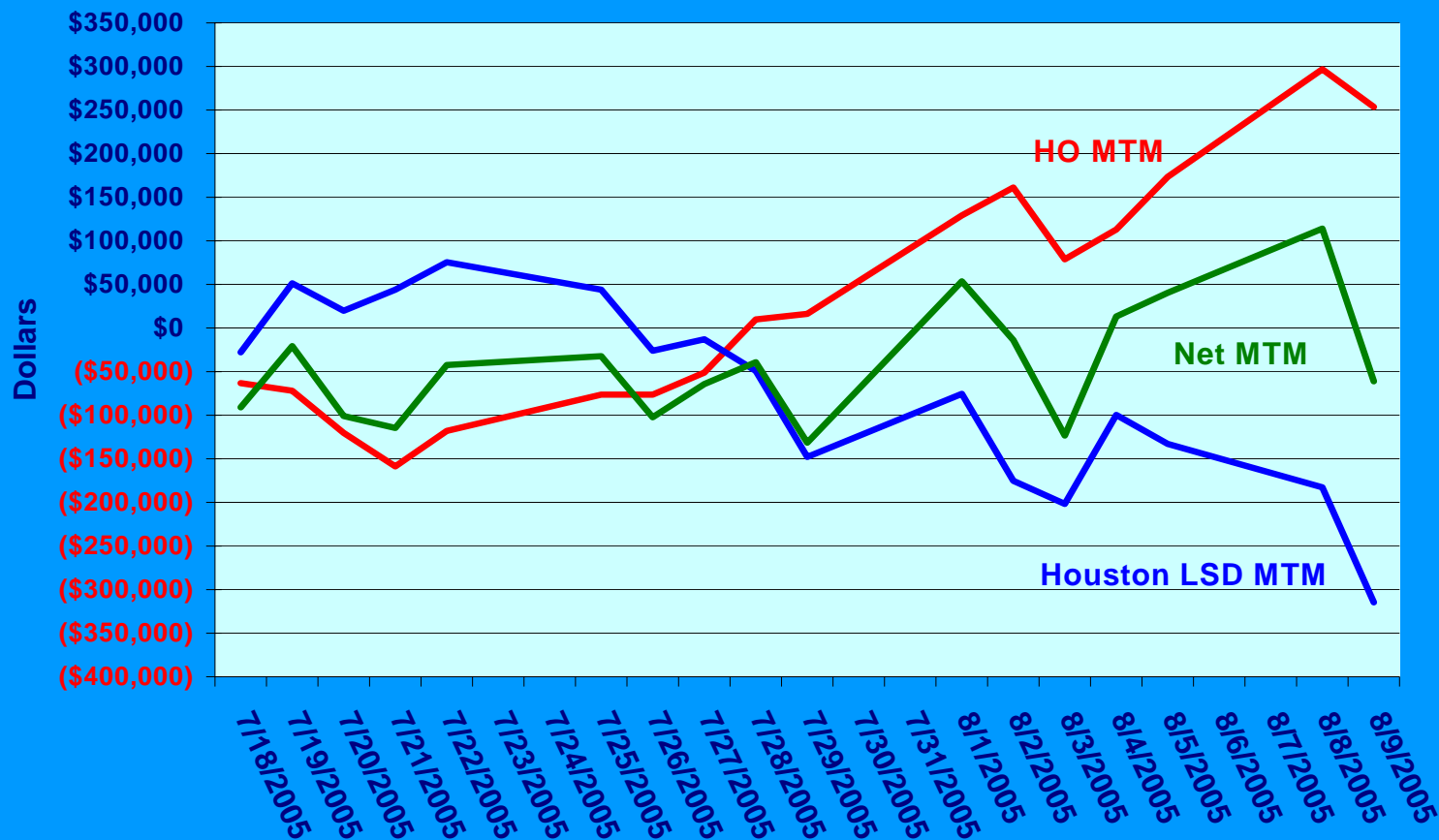
Outright Futures Hedge - MTM

Hedge 420,000 Gal/Month Using Nymex HO
 Must Buy 60 Nymex Contracts (1 Contract = 42,000 gallons)
 Strategy is to Buy Futures
 Buy 60 - 6 Month Strips at

| | Nymex 6 Mo Strip HO | Proj(Cur) 6 Mo Strip Hou LSD | Hedge MTM Long Futures | Hou LSD MTM Short Physical | Net MTM Hedge+Phy |
|--------|---------------------------|------------------------------------|---------------------------|-------------------------------|----------------------|
| 15-Jul | \$1.7673 | \$1.7513 | | | |
| 18-Jul | \$1.7422 | \$1.7623 | (\$63,126.00) | (\$27,846.00) | (\$90,972.00) |
| 19-Jul | \$1.7387 | \$1.7309 | (\$71,862.00) | \$51,198.00 | (\$20,664.00) |
| 20-Jul | \$1.7195 | \$1.7435 | (\$120,456.00) | \$19,656.00 | (\$100,800.00) |
| 21-Jul | \$1.7043 | \$1.7338 | (\$158,634.00) | \$43,974.00 | (\$114,660.00) |
| 22-Jul | \$1.7205 | \$1.7214 | (\$117,894.00) | \$75,306.00 | (\$42,588.00) |
| 25-Jul | \$1.7370 | \$1.7338 | (\$76,314.00) | \$44,058.00 | (\$32,256.00) |
| 26-Jul | \$1.7370 | \$1.7616 | (\$76,314.00) | (\$25,998.00) | (\$102,312.00) |
| 27-Jul | \$1.7469 | \$1.7564 | (\$51,324.00) | (\$12,936.00) | (\$64,260.00) |
| 28-Jul | \$1.7712 | \$1.7708 | \$9,912.00 | (\$49,224.00) | (\$39,312.00) |
| 29-Jul | \$1.7737 | \$1.8099 | \$16,296.00 | (\$147,840.00) | (\$131,544.00) |
| 1-Aug | \$1.8185 | \$1.7812 | \$129,150.00 | (\$75,474.00) | \$53,676.00 |
| 2-Aug | \$1.8312 | \$1.8207 | \$161,196.00 | (\$175,056.00) | (\$13,860.00) |
| 3-Aug | \$1.7985 | \$1.8314 | \$78,708.00 | (\$201,936.00) | (\$123,228.00) |
| 4-Aug | \$1.8120 | \$1.7908 | \$112,812.00 | (\$99,708.00) | \$13,104.00 |
| 5-Aug | \$1.8360 | \$1.8040 | \$173,250.00 | (\$132,930.00) | \$40,320.00 |
| 8-Aug | \$1.8850 | \$1.8237 | \$296,772.00 | (\$182,616.00) | \$114,156.00 |
| 9-Aug | \$1.8679 | \$1.8761 | \$253,680.00 | (\$314,664.00) | (\$60,984.00) |

Houston LSD Strip MTM Chart

Outright Hedge Strategy MTM

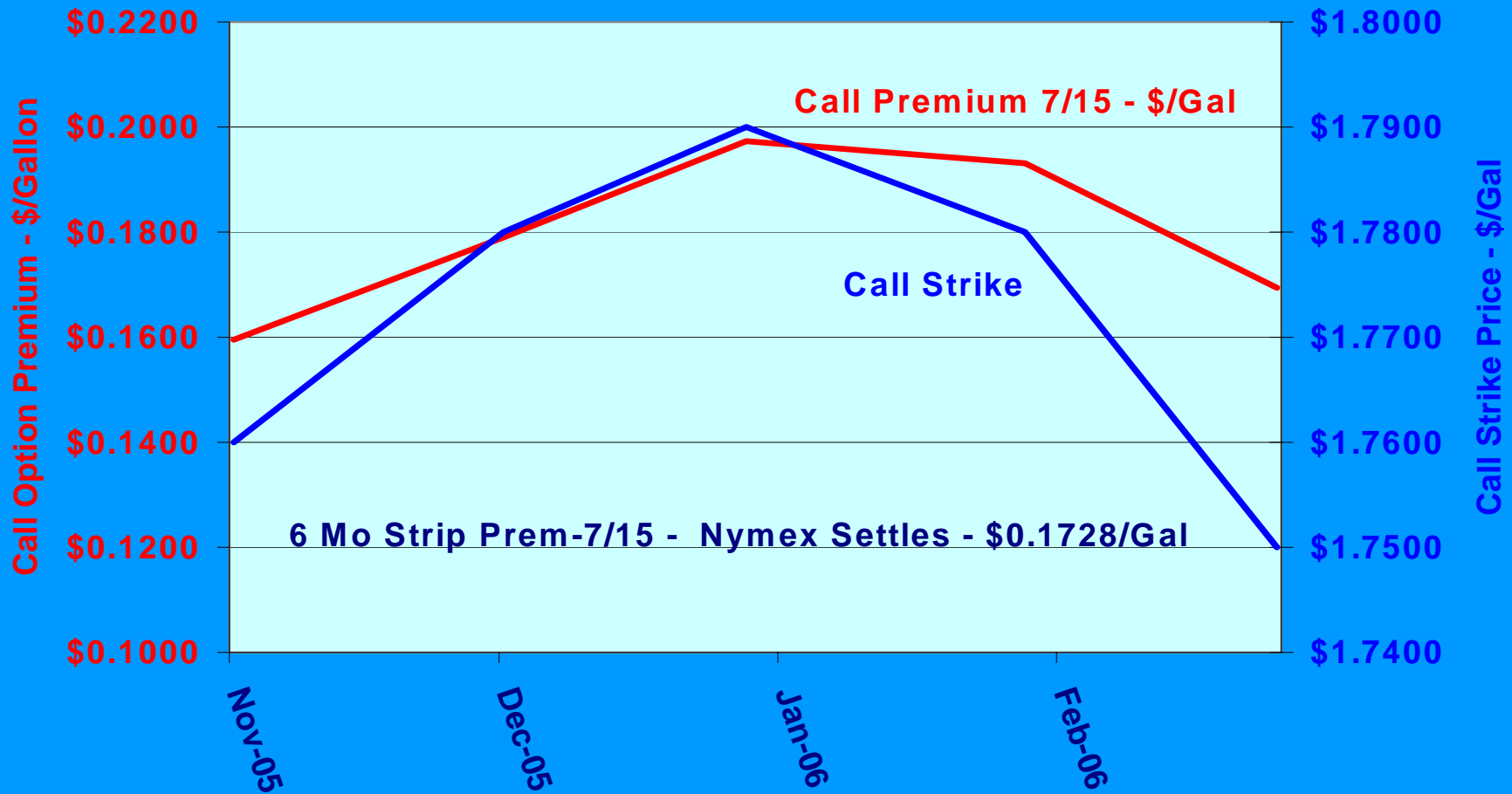


Simple Options Hedge

- Hedge Winter Fuels (Oct, 05 thru Mar, 06)
Forward using Nymex HO ATM Call Options
- To Price Protect Transportation Company from Rising Prices (upside protection).
- This Hedge Requires Buying Nymex HO ATM Call Options
- We Will Buy the 6 Month ATM Strip Ratably (same number of contracts each month)

Nymex HO ATM Call Strip FC 7/15

Nymex HO ATM Call Option Forward Curve - 7/15



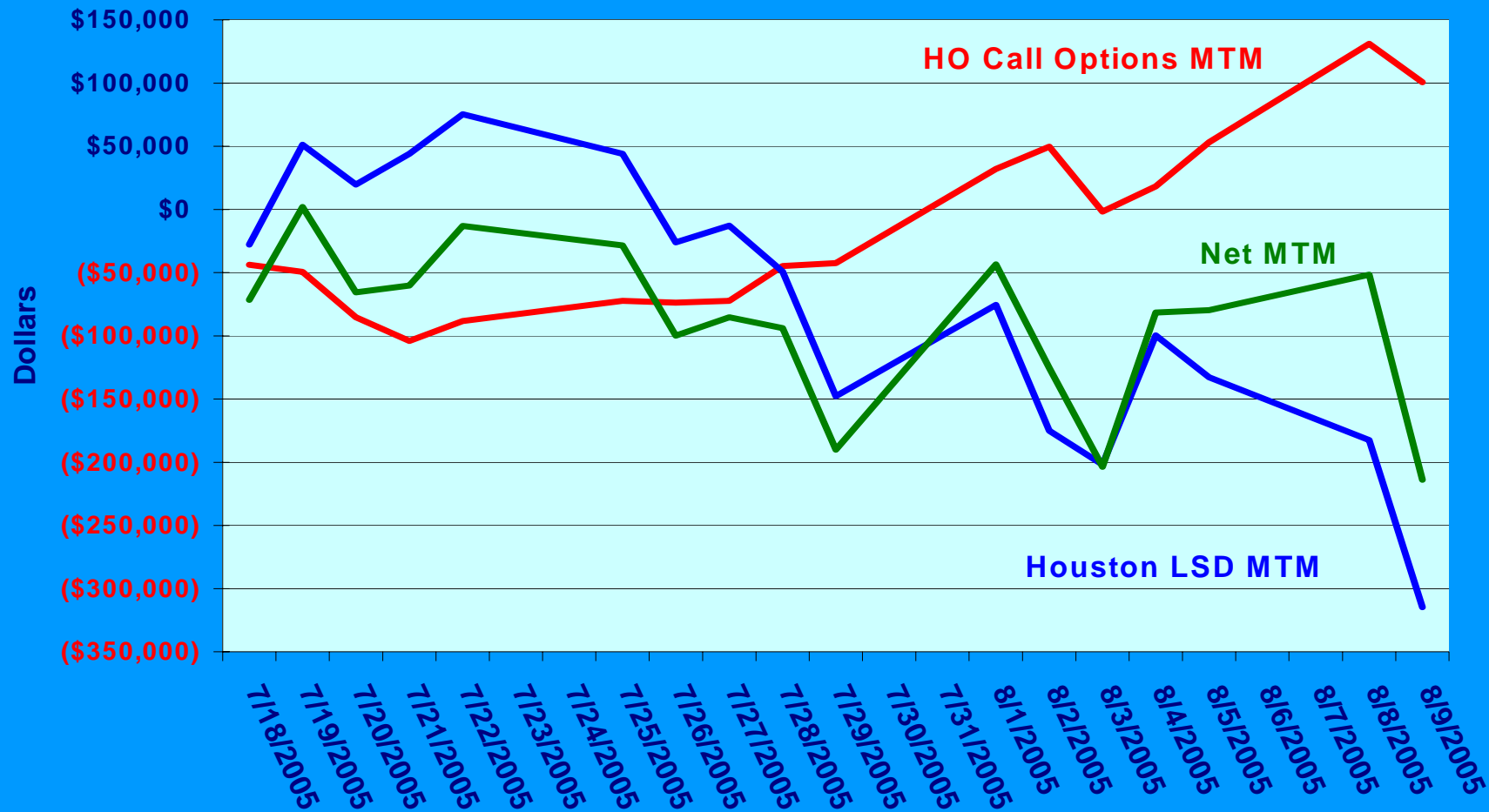
ATM Call Options Hedge - MTM

Hedge 42,000 Gallons/Month Using Nymex HO ATM Calls
 Must Buy 60 Nymex Contracts (1 Contract = 42,000 gallons)
 Strategy is to Buy ATM Calls
 Buy 60 - 6 Month Call Strips at \$0.1728/gal

| | Nymex 6 Mo Strip ATM HO Calls | Proj(Cur) 6 Mo Strip Hou LSD | Hedge MTM Long Calls | Hou LSD MTM Short Physical | Net MTM Hedge+Phy |
|--------|-------------------------------------|------------------------------------|-------------------------|-------------------------------|----------------------|
| 15-Jul | \$0.1728 | \$1.7513 | | | |
| 18-Jul | \$0.1555 | \$1.7623 | (\$43,722.00) | (\$27,846.00) | (\$71,568.00) |
| 19-Jul | \$0.1532 | \$1.7309 | (\$49,350.00) | \$51,198.00 | \$1,848.00 |
| 20-Jul | \$0.1390 | \$1.7435 | (\$85,260.00) | \$19,656.00 | (\$65,604.00) |
| 21-Jul | \$0.1315 | \$1.7338 | (\$104,076.00) | \$43,974.00 | (\$60,102.00) |
| 22-Jul | \$0.1378 | \$1.7214 | (\$88,326.00) | \$75,306.00 | (\$13,020.00) |
| 25-Jul | \$0.1441 | \$1.7338 | (\$72,450.00) | \$44,058.00 | (\$28,392.00) |
| 26-Jul | \$0.1435 | \$1.7616 | (\$73,836.00) | (\$25,998.00) | (\$99,834.00) |
| 27-Jul | \$0.1441 | \$1.7564 | (\$72,408.00) | (\$12,936.00) | (\$85,344.00) |
| 28-Jul | \$0.1551 | \$1.7708 | (\$44,730.00) | (\$49,224.00) | (\$93,954.00) |
| 29-Jul | \$0.1560 | \$1.8099 | (\$42,336.00) | (\$147,840.00) | (\$190,176.00) |
| 1-Aug | \$0.1856 | \$1.7812 | \$32,130.00 | (\$75,474.00) | (\$43,344.00) |
| 2-Aug | \$0.1925 | \$1.8207 | \$49,560.00 | (\$175,056.00) | (\$125,496.00) |
| 3-Aug | \$0.1721 | \$1.8314 | (\$1,772.40) | (\$201,936.00) | (\$203,708.40) |
| 4-Aug | \$0.1800 | \$1.7908 | \$18,186.00 | (\$99,708.00) | (\$81,522.00) |
| 5-Aug | \$0.1939 | \$1.8040 | \$53,247.60 | (\$132,930.00) | (\$79,682.40) |
| 8-Aug | \$0.2248 | \$1.8237 | \$130,998.00 | (\$182,616.00) | (\$51,618.00) |
| 9-Aug | \$0.2128 | \$1.8761 | \$100,716.00 | (\$314,664.00) | (\$213,948.00) |

HO ATM Call Strip MTM Chart

Buy Call Option Hedge Strategy MTM



Summary Of Hedge Strategies

| Summary of Hedge Strategies Net MTM | | | |
|--|-------------------|------------------------------|-------------------------|
| | 6 Mo NYM Strip | Outright Futures Hedge | Buy ATM Put Hedge |
| 15-Jul | \$1.7673 | | |
| 18-Jul | \$1.7422 | (\$90,972) | (\$71,568) |
| 19-Jul | \$1.7387 | (\$20,664) | \$1,848 |
| 20-Jul | \$1.7195 | (\$100,800) | (\$65,604) |
| 21-Jul | \$1.7043 | (\$114,660) | (\$60,102) |
| 22-Jul | \$1.7205 | (\$42,588) | (\$13,020) |
| 25-Jul | \$1.7370 | (\$32,256) | (\$28,392) |
| 26-Jul | \$1.7370 | (\$102,312) | (\$99,834) |
| 27-Jul | \$1.7469 | (\$64,260) | (\$85,344) |
| 28-Jul | \$1.7712 | (\$39,312) | (\$93,954) |
| 29-Jul | \$1.7737 | (\$131,544) | (\$190,176) |
| 1-Aug | \$1.8185 | \$53,676 | (\$43,344) |
| 2-Aug | \$1.8312 | (\$13,860) | (\$125,496) |
| 3-Aug | \$1.7985 | (\$123,228) | (\$203,708) |
| 4-Aug | \$1.8120 | \$13,104 | (\$81,522) |
| 5-Aug | \$1.8360 | \$40,320 | (\$79,682) |
| 8-Aug | \$1.8850 | \$114,156 | (\$51,618) |
| 9-Aug | \$1.8679 | (\$60,984) | (\$213,948) |

Summary Of Hedge Strategies

Summary of Working Capital Requirements

Based on 60 Nymex Contracts

| | 6 Mo NYM Strip | Outright Futures Hedge | Buy ATM Put Hedge |
|--------|-------------------|------------------------------|-------------------------|
| 15-Jul | \$1.7673 | \$344,280 | \$435,456 |
| 18-Jul | \$1.7422 | \$435,252 | \$391,734 |
| 19-Jul | \$1.7387 | \$364,944 | \$386,106 |
| 20-Jul | \$1.7195 | \$445,080 | \$350,196 |
| 21-Jul | \$1.7043 | \$458,940 | \$331,380 |
| 22-Jul | \$1.7205 | \$386,868 | \$347,130 |
| 25-Jul | \$1.7370 | \$376,536 | \$363,006 |
| 26-Jul | \$1.7370 | \$446,592 | \$361,620 |
| 27-Jul | \$1.7469 | \$408,540 | \$363,048 |
| 28-Jul | \$1.7712 | \$383,592 | \$390,726 |
| 29-Jul | \$1.7737 | \$475,824 | \$393,120 |
| 1-Aug | \$1.8185 | \$290,604 | \$360,990 |
| 2-Aug | \$1.8312 | \$358,140 | \$311,430 |
| 3-Aug | \$1.7985 | \$467,508 | \$313,202 |
| 4-Aug | \$1.8120 | \$331,176 | \$295,016 |
| 5-Aug | \$1.8360 | \$303,960 | \$241,769 |
| 8-Aug | \$1.8850 | \$230,124 | \$110,771 |
| 9-Aug | \$1.8679 | \$405,264 | \$10,055 |

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