

SUBMISSION COVER SHEET

IMPORTANT: Check box if Confidential Treatment is requested

Registered Entity Identifier Code (optional): 15-343 (3 of 3)

Organization: New York Mercantile Exchange, Inc. ("NYMEX")

Filing as a: DCM SEF DCO SDR

Please note - only ONE choice allowed.

Filing Date (mm/dd/yy): 08/27/2015 Filing Description: Listing of Three (3) New Light Louisiana Sweet (LLS) Average Price Option Contracts

SPECIFY FILING TYPE

Please note only ONE choice allowed per Submission.

Organization Rules and Rule Amendments

- | | | |
|--------------------------|-------------------------------------|------------|
| <input type="checkbox"/> | Certification | § 40.6(a) |
| <input type="checkbox"/> | Approval | § 40.5(a) |
| <input type="checkbox"/> | Notification | § 40.6(d) |
| <input type="checkbox"/> | Advance Notice of SIDCO Rule Change | § 40.10(a) |
| <input type="checkbox"/> | SIDCO Emergency Rule Change | § 40.10(h) |

Rule Numbers:

New Product

Please note only ONE product per Submission.

- | | | |
|-------------------------------------|---------------------------------------|------------|
| <input checked="" type="checkbox"/> | Certification | § 40.2(a) |
| <input type="checkbox"/> | Certification Security Futures | § 41.23(a) |
| <input type="checkbox"/> | Certification Swap Class | § 40.2(d) |
| <input type="checkbox"/> | Approval | § 40.3(a) |
| <input type="checkbox"/> | Approval Security Futures | § 41.23(b) |
| <input type="checkbox"/> | Novel Derivative Product Notification | § 40.12(a) |
| <input type="checkbox"/> | Swap Submission | § 39.5 |

Official Product Names: See filing.

Product Terms and Conditions (product related Rules and Rule Amendments)

- | | | |
|--------------------------|---|----------------------|
| <input type="checkbox"/> | Certification | § 40.6(a) |
| <input type="checkbox"/> | Certification Made Available to Trade Determination | § 40.6(a) |
| <input type="checkbox"/> | Certification Security Futures | § 41.24(a) |
| <input type="checkbox"/> | Delisting (No Open Interest) | § 40.6(a) |
| <input type="checkbox"/> | Approval | § 40.5(a) |
| <input type="checkbox"/> | Approval Made Available to Trade Determination | § 40.5(a) |
| <input type="checkbox"/> | Approval Security Futures | § 41.24(c) |
| <input type="checkbox"/> | Approval Amendments to enumerated agricultural products | § 40.4(a), § 40.5(a) |
| <input type="checkbox"/> | "Non-Material Agricultural Rule Change" | § 40.4(b)(5) |
| <input type="checkbox"/> | Notification | § 40.6(d) |

Official Name(s) of Product(s) Affected

Rule Numbers:

August 27, 2015

VIA ELECTRONIC PORTAL

Mr. Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, D.C. 20581

Re: CFTC Regulation 40.2(a) Certification. Notification Regarding the Listing of Three (3) New Light Louisiana Sweet (LLS) Crude Oil Average Price Option Contracts. NYMEX Submission No. 15-343 (3 of 3)

Dear Mr. Kirkpatrick:

New York Mercantile Exchange, Inc. (“NYMEX” or “Exchange”) is notifying the Commodity Futures Trading Commission (“CFTC” or “Commission”) that it is self-certifying the listing of three (3) Light Louisiana Sweet (LLS) crude oil average price option contracts (the “Contracts”) for trading on the NYMEX trading floor and CME Globex, and for submission for clearing via CME ClearPort, effective on Sunday, September 13, 2015 for trade date Monday, September 14, 2015, as set forth in the table below.

The Contracts’ specifications are as follows:

Contract Title	LLS (Argus) vs. WTI Crude Oil Average Price Option	LLS (Argus) vs. Brent Crude Oil Average Price Option	LLS (Argus) Crude Oil Average Price Option
Commodity Code	WJO	LRO	XAO
Rulebook Chapter	1128	1129	1130
Trading and Clearing Venues	CME Globex, CME ClearPort & NYMEX Trading Floor	CME Globex, CME ClearPort & NYMEX Trading Floor	CME Globex, CME ClearPort & NYMEX Trading Floor
Settlement Method	Financial	Financial	Financial
Option Type	European	European	European
Contract Size	1000 Barrels	1000 Barrels	1000 Barrels
Listing Schedule	Current year plus 5 consecutive years	Current year plus 5 consecutive years	Current year plus 5 consecutive years
Minimum Price	\$0.01/barrel	\$0.01/barrel	\$0.01/barrel

Fluctuation			
Value per Tick	\$10.00	\$10.00	\$10.00
First Listed Contract	October 2015	October 2015	October 2015
Block Trade Minimum Threshold	5 contracts	5 contracts	5 contracts
Termination of Trading	Last business day of the underlying contract month	Last business day of the underlying contract month	Last business day of the underlying contract month
CME Globex Match Algorithm	First in First Out (FIFO)	First in First Out (FIFO)	First in First Out (FIFO)

TRADING AND CLEARING HOURS

CME Globex and CME ClearPort	Sunday - Friday 6:00 p.m. - 5:15 p.m. (5:00 p.m. - 4:15 p.m. Chicago Time/CT) with a 45-minute break each day beginning at 5:15 p.m. (4:15 p.m. CT)
Trading Floor	Monday - Friday 9:00 a.m. - 2:30 p.m. (8:00 a.m. to 1:30 p.m. CT)

FEES

Exchange Fees	Trading Floor	CME Globex	CME ClearPort
Member Day Rate	0.45	0.45	
Member Overnight Rate	0.70	0.70	1.75
Cross Division Rate	0.95	0.95	
Non-Member Rate	1.45	1.45	2.50
International Incentive Program (IIP)		0.77	
Other Processing Surcharges	Member	Non-Member	
Cash Settlement	0.90	1.15	
Facilitation Fee	0.30		
Give-up Surcharge	0.05		
Position Transfer/Position Adjustment	0.10		

The Exchange is also notifying the CFTC that it is self-certifying the insertion of the terms and conditions for the new futures contracts into the Position Limit, Position Accountability and Reportable Level Table and Header Notes located in the Interpretations and Special Notices Section of Chapter 5 of the NYMEX Rulebook in relation to the listing of the new contract. These terms and conditions establish the all month/any one month accountability levels, expiration month position limit, reportable level, and aggregation allocation for the new contract. Please see Appendix B, attached under separate cover.

Pursuant to Commission Regulation 40.6(a), NYMEX is self-certifying block trading on these Contracts with a minimum block threshold of five (5) contracts. This block level aligns with the Exchange's most recently listed crude oil option contracts.

The Exchange reviewed the designated contract market core principles ("Core Principles") as set forth in the Commodity Exchange Act ("CEA") and staff identified that the Contracts may have some bearing on the following Core Principles:

Compliance with Rules: Trading in the Contracts will be subject to all CME Rules, including prohibitions against fraudulent, noncompetitive, unfair and abusive practices as outlined in CME Rule Chapter 4, the Exchange's trade practice rules, the majority of which are contained in Chapter 5 and Chapter 8 of the CME Rulebook, and the dispute resolution and arbitration procedures of CME Rule Chapter 6. As with all products listed for trading on one of CME Group's designated contract markets, trading activity in the Contracts will be subject to monitoring and surveillance by CME Group's Market Regulation Department. The Market Regulation Department has the authority to exercise its investigatory and enforcement power where potential rule violations are identified.

Contracts Not Readily Subject to Manipulation: The Contracts are not readily subject to manipulation as a result of the deep liquidity and robustness of the underlying cash and futures market and the settlement index. Pursuant to the Exchange's obligations under this core principle, the final settlement indices are published by Argus Media and sub-licensed to CME. The indices are based on the volume weighted-average price of transactions done during the entire trading day.

Prevention of Market Disruption: Trading in the Contracts will be subject to the Rules of CME, which include prohibitions on manipulation, price distortion, and disruption to the cash settlement process. As with any new product listed for trading on a CME Group designated contract market, trading activity in the futures contracts proposed herein will be subject to monitoring and surveillance by CME Group's Market Regulation Department.

Position Limitations or Accountability: The Exchange has a detailed calculation methodology for the position limits in the Contracts.

Availability of General Information: The Exchange will publish on its website information in regard to contract specifications, terms, and conditions, as well as daily trading volume, open interest, and price information for the Contracts.

Daily Publication of Trading Information: The Exchange will publish contract trading volumes, open interest levels, and price information daily on its website and through quote vendors for the Contracts.

Execution of Transactions: The Contracts will be listed for trading on the CME Globex electronic trading platform and New York Trading Floor, and for clearing through the CME ClearPort platform. The CME Globex trading venue provides for competitive and open execution of transactions. CME Globex affords the benefits of reliability and global connectivity. The CME ClearPort platform provides a competitive, open and efficient mechanism for novating transactions that are competitively executed by brokers.

Trade Information: All requisite trade information for the Contracts will be included in the audit trail and is sufficient for the Market Regulation Department to monitor for market abuse.

Financial Integrity of Contracts: The Contracts will be cleared by the CME Clearing House, a derivatives clearing organization registered with the Commodity Futures Trading Commission and subject to all CFTC regulations related thereto.

Protection of Market Participants: CME Rulebook Chapters 4 and 5 set forth multiple prohibitions that preclude intermediaries from disadvantaging their customers. These rules apply to trading in all of the Exchange's competitive trading venues.

Disciplinary Procedures: Chapter 4 of the Rulebook contains provisions that allow the Exchange to discipline, suspend or expel members or market participants that violate the Rulebook. Trading in these contracts will be subject to Chapter 4, and the Market Regulation Department has the authority to exercise its enforcement power in the event rule violations in these products are identified.

Dispute Resolution: Disputes with respect to trading in the Contracts will be subject to the arbitration provisions set forth in Chapter 6 of the Rulebook. Chapter 6 allows all nonmembers to submit a claim for financial losses resulting from transactions on the Exchange to arbitration. A member named as a respondent in a claim submitted by a nonmember is required to participate in the arbitration pursuant to Chapter 6. Additionally, the Exchange requires that members resolve all disputes concerning transactions on the Exchange via arbitration.

Pursuant to Section 5c(c) of the Act and CFTC Regulation 40.2(a), the Exchange hereby certifies that listing the Contracts complies with the Act, including regulations under the Act. There were no substantive opposing views to the listing of the Contracts.

The Exchange certifies that this submission has been concurrently posted on the Exchange's website at <http://www.cmegroup.com/market-regulation/rule-filings.html>.

Should you have any questions concerning the above, please contact the undersigned at (212) 299-2200 or e-mail CMEGSubmissionInquiry@cmegroup.com.

Sincerely,

/s/ Christopher Bowen
Managing Director and Chief Regulatory Counsel

Attachments: Appendix A: NYMEX Rulebook Chapters
Appendix B: Position Limit, Position Accountability, and Reportable Level Table in Chapter 5 of the NYMEX Rulebook (attached under separate cover)
Appendix C: NYMEX Rule 588.H – Non-reviewable Range Table
Appendix D: Cash Market Overview and Analysis of Deliverable Supply

APPENDIX A

Chapter 1128

LLS (Argus) vs. WTI Crude Oil Average Price Option

112800. SCOPE of CHAPTER

This chapter is limited in application to put and call options on LLS (Argus) vs. WTI Financial Futures (WJ) contract. In addition to the rules of this chapter, transactions in options on LLS (Argus) Financial Futures shall be subject to the general rules of the Exchange insofar as applicable.

112801. OPTION CHARACTERISTICS

The number of months open for trading at a given time shall be determined by the Exchange.

1128101.A. Trading Schedule

The hours of trading for this contract shall be determined by the Exchange.

1128101.B. Trading Unit

A LLS (Argus) vs. WTI Crude Oil Average Price Option is a cash-settled option. On expiration of a call option, the value will be the difference between settlement price of the underlying LLS (Argus) vs. WTI Financial Futures and the strike price multiplied by 1,000 barrels, or zero whichever is greater. On expiration of a put option, the difference between settlement price of the underlying LLS (Argus) vs. WTI Financial Futures and the strike price multiplied by 1,000 barrels, or zero whichever is greater.

1128101.C. Price Increments

Prices shall be quoted in dollars and cents per barrel. The minimum price fluctuation shall be \$0.01 per barrel.

1128101.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

1128101.E. Termination of Trading

Trading shall cease on the last business day of the contract month.

1128101.F. Type Option

The option is a European-style option which can be exercised on the expiration day.

112802. EXERCISE PRICES

Trading shall be conducted for options with strike prices in increments as set forth below.

(A) On the first business day of trading in an option contract month, trading shall be at the following strike prices: (i) the previous day's settlement price for LLS (Argus) vs. WTI Financial Futures contract in the corresponding delivery month rounded off to the nearest five-cent increment strike price unless such settlement price is precisely midway between two five-cent increment strike prices, in which case it shall be rounded off to the lower five-cent increment strike price and (ii) the strike price which is one five-cent increment higher than the strike price described in subsection (A)(i) of this rule, and (iii) the strike price which is one five-cent increment lower than the strike price described in subsection (A)(i) of this rule.

(B) Thereafter, on any business day prior to the expiration of the option, new consecutive five-cent increment strike prices for both puts and calls will be added such that at all times there will be at least one five-cent increment strike prices above and below the at-the-money strike price available for trading in all options contract months.

(C) Notwithstanding the provisions of subsections (A) and (B) of this rule, if the Exchange determines that trading in the contract will be facilitated thereby, the Exchange may, by resolution, change the increments between strike prices, the number of strike prices which shall be traded on the first day in any new option contract month, the number of new strike prices which will be introduced on each business day or the period preceding the expiration the contract in which no new strike prices may be introduced.

112803. DISCLAIMER

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Chapter 1129

LLS (Argus) vs. Brent Crude Oil Average Price Option

112900. SCOPE of CHAPTER

This chapter is limited in application to put and call options on LLS (Argus) vs. Brent Financial Futures (LLR) contract. In addition to the rules of this chapter, transactions in options on LLS (Argus) Financial Futures shall be subject to the general rules of the Exchange insofar as applicable.

112901. OPTION CHARACTERISTICS

The number of months open for trading at a given time shall be determined by the Exchange.

1129101.A. Trading Schedule

The hours of trading for this contract shall be determined by the Exchange.

1129101.B. Trading Unit

A LLS (Argus) vs. Brent Crude Oil Average Price Option is a cash-settled option. On expiration of a call option, the value will be the difference between settlement price of the underlying LLS (Argus) vs. Brent Financial Futures and the strike price multiplied by 1,000 barrels, or zero whichever is greater. On expiration of a put option, the difference between settlement price of the underlying LLS (Argus) vs. Brent Financial Futures and the strike price multiplied by 1,000 barrels, or zero whichever is greater.

1129101.C. Price Increments

Prices shall be quoted in dollars and cents per barrel. The minimum price fluctuation shall be \$0.01 per barrel.

1129101.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

1129101.E. Termination of Trading

Trading shall cease on the last business day of the contract month.

1129101.F. Type Option

The option is a European-style option which can be exercised on the expiration day.

112902. EXERCISE PRICES

Trading shall be conducted for options with strike prices in increments as set forth below.

(A) On the first business day of trading in an option contract month, trading shall be at the following strike prices: (i) the previous day's settlement price for LLS (Argus) vs. Brent Financial Futures contract in the corresponding delivery month rounded off to the nearest five-cent increment strike price unless such settlement price is precisely midway between two five-cent increment strike prices, in which case it shall be rounded off to the lower five-cent increment strike price and (ii) the strike price which is one five-cent increment higher than the strike price described in subsection (A)(i) of this rule, and (iii) the strike price which is one five-cent increment lower than the strike price described in subsection (A)(i) of this rule.

(B) Thereafter, on any business day prior to the expiration of the option, new consecutive five-cent increment strike prices for both puts and calls will be added such that at all times there will be at least one five-cent increment strike prices above and below the at-the-money strike price available for trading in all options contract months.

(C) Notwithstanding the provisions of subsections (A) and (B) of this rule, if the Exchange determines that trading in the contract will be facilitated thereby, the Exchange may, by resolution, change the increments between strike prices, the number of strike prices which shall be traded on the first day in any new option contract month, the number of new strike prices which will be introduced on each business day or the period preceding the expiration the contract in which no new strike prices may be introduced.

112903.

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Chapter 1130 LLS (Argus) Crude Oil Average Price Option

113000.

SCOPE of CHAPTER

This chapter is limited in application to put and call options on LLS (Argus) Financial Futures (XA) contract. In addition to the rules of this chapter, transactions in options on LLS (Argus) Financial Futures shall be subject to the general rules of the Exchange insofar as applicable.

113001.

OPTION CHARACTERISTICS

The number of months open for trading at a given time shall be determined by the Exchange.

1130101.A. Trading Schedule

The hours of trading for this contract shall be determined by the Exchange.

1130101.B. Trading Unit

A LLS (Argus) Crude Oil Average Price Option is a cash-settled option. On expiration of a call option, the value will be the difference between settlement price of the underlying LLS (Argus) Financial Futures and the strike price multiplied by 1,000 barrels, or zero whichever is greater. On expiration of a put option, the difference between settlement price of the underlying LLS (Argus) Financial Futures and the strike price multiplied by 1,000 barrels, or zero whichever is greater.

1130101.C. Price Increments

Prices shall be quoted in dollars and cents per barrel. The minimum price fluctuation shall be \$0.01 per barrel.

1130101.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

1130101.E. Termination of Trading

Trading shall cease on the last business day of the contract month.

1130101.F. Type Option

The option is a European-style option which can be exercised on the expiration day.

113002.

EXERCISE PRICES

Trading shall be conducted for options with strike prices in increments as set forth below.

(A) On the first business day of trading in an option contract month, trading shall be at the following strike prices: (i) the previous day's settlement price for LLS (Argus) Financial Futures contract in the corresponding delivery month rounded off to the nearest five-cent increment strike price unless such settlement price is precisely midway between two five-cent increment strike prices, in which case it shall be rounded off to the lower five-cent increment strike price and (ii) the strike price which is one five-cent increment higher than the strike price described in subsection (A)(i) of this rule, and (iii) the strike price which is one five-cent increment lower than the strike price described in subsection (A)(i) of this rule.

(B) Thereafter, on any business day prior to the expiration of the option, new consecutive five-cent increment strike prices for both puts and calls will be added such that at all times there will be at least one five-cent increment strike prices above and below the at-the-money strike price available for trading in all options contract months.

(C) Notwithstanding the provisions of subsections (A) and (B) of this rule, if the Exchange determines that trading in the contract will be facilitated thereby, the Exchange may, by resolution, change the increments between strike prices, the number of strike prices which shall be traded on the first day in any new option contract month, the number of new strike prices which will be introduced on each business day or the period preceding the expiration the contract in which no new strike prices may be introduced.

113003.

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APPENDIX B

Position Limit, Position Accountability, and Reportable Level Table in Chapter 5

of the NYMEX Rulebook

(attached under separate cover)

APPENDIX C

NYMEX Rule 588.H – Non-reviewable Range Table

Instrument	Bid/Ask Reasonability	Non-Reviewable Range (NRR)
LLS (Argus) vs. WTI Crude Oil Average Price Option	The greater of the delta times the underlying futures non-reviewable range or 20% of the fair value premium up to the underlying futures non-reviewable range with a minimum reasonability of \$0.50	20% of premium up to ¼ of the underlying futures non-reviewable range with a minimum of 1 tick.
LLS (Argus) vs. Brent Crude Oil Average Price Option	The greater of the delta times the underlying futures non-reviewable range or 20% of the fair value premium up to the underlying futures non-reviewable range with a minimum reasonability of \$0.50	20% of premium up to ¼ of the underlying futures non-reviewable range with a minimum of 1 tick.
LLS (Argus) Crude Oil Average Price Option	The greater of the delta times the underlying futures non-reviewable range or 20% of the fair value premium up to the underlying futures non-reviewable range with a minimum reasonability of \$0.50	20% of premium up to ¼ of the underlying futures non-reviewable range with a minimum of 1 tick.

APPENDIX D

Cash Market Overview and Analysis of Deliverable Supply

Introduction

New York Mercantile Exchange, Inc. (NYMEX or Exchange) is self-certifying the listing of three financially-settled Louisiana Light Sweet (LLS) oil option contracts: LLS (Argus) Crude Oil Average Price Option, LLS (Argus) vs. WTI Crude Oil Average Price Option, and LLS (Argus) vs. Brent Crude Oil Average Price Option. Exchange staff conducted a review of the underlying cash markets and deliverable supply of LLS, Brent and WTI crude oil.

In estimating deliverable supply for the contracts and relying on the Commodity Futures Trading Commission ("CFTC" or "Commission") long-standing precedent, the key component of estimated deliverable supply is the portion of typical production and supply stocks that could reasonably be considered to be reliably available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

[t]he term "deliverable supply" generally means the quantity of the commodity meeting a derivative contract's delivery specifications that can reasonably be expected to be readily available to short traders and saleable by long traders at its market value in normal cash marketing channels at the derivative contract's delivery points during the specified delivery period, barring abnormal movement in interstate commerce.¹

The Exchange determined to base its analysis of deliverable supply on primarily production data for LLS. For the Brent market, the Brent, Forties, Oseberg and Ekofisk (BFOE) Loadings data were primarily used to estimate deliverable supply. For the WTI market, a combination of industry-based estimates of physical flow of deliverable oil to the delivery area and the average industry-based estimates of deliverable oil stored in the delivery area was used.

In its analysis of deliverable supply, the Exchange has determined not to adjust the deliverable supply estimate based on the spot availability because spot market liquidity is not restrictive and tends to vary depending on the market fundamentals of supply and demand. The typical term agreement in the cash market allows flexibility for re-trading of the contracted quantity in the spot market, so the term agreements do not restrict the potential deliverable supply. Also, the spot trading is not restricted in that it could increase if the market demand increases. The LLS market is robust and has an actively traded and transparent cash market. Trade activity on LLS has risen sharply as global crude market participants seek to hedge their physical exposure in the US Gulf Coast. In addition to flat price, LLS trades as a differential to WTI and Brent crude, both backed by a deep financial market with a robust regulatory structure. The physical LLS market has a diverse array of buyers and sellers, normally around 36 different companies in any given month. The futures market for LLS is also quite active. The NYMEX LLS (Argus) vs. WTI Financial Futures contract (Rule Chapter 840², Code WJ) had open interest of over 50,000 contracts as of July 16, 2015.

The Exchange has set conservative speculative limits at 3,000 contracts (equivalent to three million barrels) for the LLS leg of each contract, which is approximately 11.88%% of the monthly deliverable supply. The deliverable supply of LLS is estimated at 842,000 barrels per day, which is equivalent to approximately 25.26 million barrels per month, or 25,260 contract equivalents. The Brent leg of the LLS (Argus) vs. Brent Option has a position limit of 4,000 contracts (equivalent to four million barrels), which is approximately 17.73% of the monthly deliverable supply. The deliverable supply of Brent is estimated at 752,200 b/d, or 22.57 million barrels per month, which is equivalent to 22,566 contracts.

¹ Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

² <http://www.cmegroup.com/rulebook/NYMEX/8/840.pdf>

The WTI leg of the LLS (Argus) vs. WTI Option has a position limit of 3,000 contracts (equivalent to three million barrels), which is approximately 6.90% of the monthly deliverable supply. The deliverable supply of WTI is estimated at 1,450,000 b/d, or 43.50 million barrels per month, which is equivalent to 43,500 contracts.

For position limit and accountability level purposes, all open positions in these option contracts shall aggregate into each of the 3 corresponding futures contracts: LLS (Argus) Financial Futures (Code: XA), Crude Oil Last Day Financial Futures (Code: 26), and Brent Crude Oil Futures (Code: BB).

Data Sources

The Exchange based its analysis of LLS, WTI and Brent markets on data provided by several sources including: US Department of Energy's Energy Information Administration ("EIA"), Bloomberg, and various reliable industry sources. The EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. Bloomberg LP ("Bloomberg") is a privately held financial software, data and media company headquartered in New York City. The industry sources that the Exchange has consulted are well-established and reputable market participants that the Exchange has had a longstanding relationship with.

LLS

Cash Market Overview

LLS Production

US oil production has grown rapidly in recent years. Recent growth has consisted primarily of lighter, sweet crude from tight resource formations. Additional production of light oil over the past several years has, for the most part, been absorbed by reducing oil imports of similar grades.

Crude oil is categorized by reference to its density/API gravity and sulfur content. The quality of crude oil and other feedstock dictates the level of processing and conversion necessary to achieve what a refiner sees as an optimal mix of products. Light sweet crude is more expensive than heavier, sourer crude because it requires less processing and produces a slate of products with a greater percentage of value-added products, such as gasoline, diesel, and aviation fuel. Louisiana Light Sweet oil has a 38 API and 0.40% sulfur³ and is considered a light sweet crude oil. LLS is a blended grade that can be created by mixing crudes. Once field production enters transportation and distribution systems, it commingles with other crude types (e.g., in rail cars or pipelines) or otherwise blended to capture economic opportunities before being delivered to refineries. A rich variety of domestic crudes can be blended to make LLS quality oil. A simple example would be to blend relatively lower-value (API<27) with API 50+ oil if the price of selling API 35-40 oil exceeded the cost of buying and blending the inputs.

Most LLS streams are produced domestically in the Gulf Coast (Texas), Northern Great Plains (North Dakota) and some in the Midcontinent. Approximately 15% of the South Texas Eagle Ford crude is LLS-quality. Eagle Ford production averaged over 1.5 Million b/d in the first half of 2015⁴. Oil from the Bakken field in North Dakota is shipped to the Gulf Coast and frequently blended into LLS as well. Industry reports indicate that most Bakken wells produce relatively uniform quality crude oil between 40 and 45 degrees API gravity.

In calculating the production levels of LLS, the Exchange relied on production by crude quality data published by the EIA in a May 2015 report titled "U.S. Crude Oil Production to 2025: Update Projection of Crude Types⁵". Accordingly, and as illustrated in Table 1 below, the three-year average from 2012 to 2014 for LLS-quality crude oil ("API 35-40 Sweet") production in the US is 842,000 barrels per day. The three-year average for 2015-2017 is forecasted to be higher at approximately 968,000 barrels per day.

Table 1: US Crude Oil Production by Type⁶

US Crude Oil Production by Crude Type							
(thousand barrels per day)	Forecasts						
	2012	2013	2014	3-Year Average	2015	2016	2017
API <27 Sour	97	92	85	91	88	80	78
API <27 Sweet	25	25	24	24	23	25	24
California	589	595	605	596	606	624	638
API 27-35 Sour	393	283	281	319	283	293	301
API 27-35 Med-Sour	2,158	2,173	2,283	2,204	2,350	2,438	2,612
API 35+ Sour	361	349	393	367	409	428	447
API 35-40 Sweet	792	821	913	842	992	961	952
API 40-45 Sweet	1,161	1,835	2,413	1,803	2,786	2,892	3,078
API 45-50 Sweet	388	489	588	488	617	617	659
API 50+ Sweet	539	776	1,048	788	1,171	1,193	1,211
Total	6,502	7,439	8,632	7,524	9,326	9,552	10,002

³ <http://www.caplinepipeline.com/Reports1.aspx>

⁴ <http://www.eia.gov/petroleum/drilling/#tabs-summary-2>

⁵ <http://www.eia.gov/analysis/petroleum/crudetypes/>

⁶ <http://www.eia.gov/analysis/petroleum/crudetypes/pdf/crudetypes.pdf>

LLS Trade

The Light Louisiana Sweet (“LLS”) crude oil market is traded at the hub in St. James, Louisiana, which consists of storage facilities and major pipelines for distribution of crude oil from the Gulf of Mexico to refineries in Louisiana and in the Midcontinent. The Capline pipeline system is a strategic high-volume transportation resource that links Gulf of Mexico and foreign crude supplies to key refineries throughout the Midcontinent area of the United States. It carries 1.1 million barrels of crude oil per day from St. James to Patoka, Illinois. There is active trading in forward cash deals on the Capline.

The typical transaction size in the LLS market is 30,000 barrels, with hundreds of separate transactions occurring daily. The volume of spot transactions is more than half of all cash transactions, and the balance of trades are longer-term contracts. In addition, based on conversations with OTC market participants, the OTC market for LLS crude oil swap market is highly liquid. The bid/ask spreads are typically in increments of 10 cents per barrel, which reflects robust liquidity in the LLS crude oil OTC market.

LLS prices are reflective of market economics at the Gulf coast for light sweet grades. The U.S. is divided into five market regions called PADDs (Petroleum Administration of Defense Districts). Louisiana is located in PADD 3 (Gulf Coast area) along with Alabama, Arkansas, Mississippi, New Mexico and Texas. Louisiana has an extensive pipeline system with approximately 87,764 miles of pipelines onshore and 37,000 miles of pipelines in Louisiana Outer Continental Shelf (OCS) waters. Nearly half of all U.S. refining capacity and about 60% of crude oil production are concentrated in PADD 3.

LLS Price Index

Argus Media is the Price Reporting Agency for the LLS spot market. The Argus index for LLS is based on a volume-weighted average (VWA) of deals done across the trading day. Argus validates physical transactions throughout the trading day. Argus asks for details of counterparties from contacts in order to confirm deals and to avoid double-counting in volume-weighted averages. Argus is completely transparent, publishing the price and volume of every deal that is used in the final index price. Argus crude prices for the Americas are published in the Argus Americas Crude report. Argus publishes the low and the high of deals done throughout the entire trading day. In order to qualify to set the low or high of the day, deals must meet the minimum volumes as specified in methodology. Argus editors and managers are readily available to discuss their methodology, which can be publicly accessed at: http://www.argusmedia.com/Petroleum/Crude/~media/Files/PDFs/Meth/argus_americas_crude.ashx

Analysis of Deliverable Supply

In calculating the position limits for the LLS market, the Exchange used production data for LLS. Accordingly, the three-year average for LLS-quality crude oil production in the US is 842,000 barrels per day, which is equivalent to approximately 25.26 million barrels per month, or 25,260 contract equivalents (contract size: 1,000 barrels). The spot month position limit of 3,000 contracts for the LLS leg of the options is set at approximately 11.88% of the monthly deliverable supply.

Brent

Cash Market Overview

The North Sea market is comprised of the oil fields in the UK and Norwegian North oil sectors. There is a series of smaller oil fields which connect into larger streams. The most important streams in the North Sea comprise of Brent, Forties, Oseberg and Ekofisk and each stream has a principle operator that is responsible for the day to the day control of the operations including the scheduling of the cargoes based on the production from each of the smaller producing fields. The Brent, Forties, Oseberg and Ekofisk fields are known as BFOE and they underpin the Brent complex and are the key grades of oil that make up the trading of Dated Brent – the international crude oil physical benchmark price. The four BFOE fields lie in the North Sea. Brent and Forties are in the UK sector, whilst Ekofisk and Oseberg are in the Norwegian sector.

The core of the Brent market is the cash market. The Brent forward market consists of the trading of cargoes of any of the Brent, Forties, Oseberg and Ekofisk streams for delivery beyond the 25 days, with no specific dates assigned for loading. The cargoes are 600,000 barrels and, in the forward market, the precise loading dates are not provided, only the delivery month i.e. December BFOE Cargo. However the commercial contracts, which are standardized, underlying the forward market to specify the minimum timing the seller must provide the buyer to notify them as to the specific cargo loading date – currently 25 days in advance. After the seller of a BFOE forward cargo notifies the buyer as to the loading date and which stream is being loaded, the contract is now considered to have moved from the forward market to the Dated Brent market, historically this moment is referred to as the cargo going “wet” i.e. it has loading dates attached to it and can therefore be sold as a Dated Brent cargo.

The Brent cash market is essentially a reseller market where buyers either: resell the oil to someone else; transport the cargo and resell it later; or transport the cargo to consume it. Most of the sales in the Brent market are conducted as spot-market transactions; in fact, Brent cargoes in the physical market are estimated to trade 10 or more times. Typically, there is a chronology of sales and purchases of crude oil in the Brent cash market that starts with a sale from the equity producer in a spot market transaction, and finishes with a purchase by an end-user to consume the crude oil. Equity producers typically utilize the robust spot market to sell their BFOE production at the cargo loading terminal, as a “Free on Board” (FOB) delivery. Traders play an active role in the Brent market as middlemen with the expressed responsibility of reselling the oil. Further, the refiners typically rely on the spot market to purchase Brent crude oil, because there is vibrant liquidity in the spot market, and hence, the refiners have developed a preference for short-term spot market purchases, rather than long-term contracts. This applies to refiners affiliated with equity producers as well as those not affiliated; this is the standard practice, established and institutionalized over the past 34 years.

Production of BFOE has been declining over the past few years due to the cost of drilling and the returns on investment compared to other regions in the world. These four North Sea grades are segregated blends delivered at different locations in the North Sea, and each can be substituted by the seller in the 25-Day BFOE cash market (“the forward market”). Quality adjustments ensure that all four grades can be delivered to a buyer under the standardized forward contract. Platts made an adjustment to the forward market mechanism with effect from March 2015 with the nomination period being extended from 25-days to month ahead. Both ICE and NYMEX have adjusted the expiry calendar of the Futures to align more closely with the forward market with effect from the March 2016 contract month (as an earlier transition would have had a significant impact on the open interest holders).

The process of moving from a forward to the physical market where a forward Brent cargo becomes a physical North Sea Dated Brent cargo happens as follows:

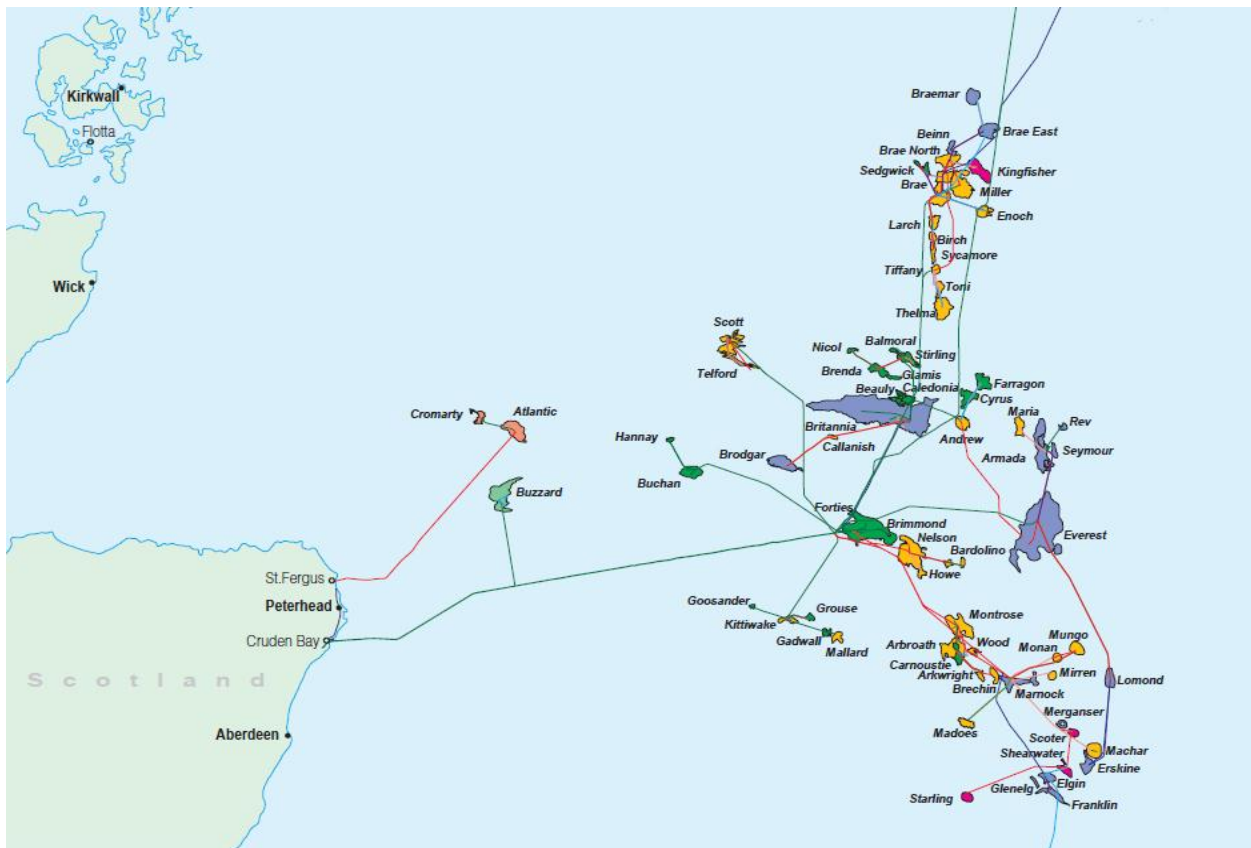
1. Refiners, producers and traders enter into a forward agreement for a particular month.
2. The Operator of each field being Shell for Brent; BP for Forties; ConocoPhillips for Oseberg and Statoil for Ekofisk will announce the loading programs at least 25 days prior before the month

starts to be wet (i.e. cargoes in the delivery month start to load). This nomination process is being extended to month ahead from March 2015 i.e. the March cash cargo will expire on the 31st of January 2015.

3. The equity producers will begin the chain of nominating cargoes to buyers (or they can decide to keep the cargo). A buyer benefiting from a nomination can keep the cargo or pass it to another player with whom it has another forward contract. Buyers trade the cash BFOE on the basis that they will accept any cargo as nominated provided that it is done so within the agreed notice period (currently 25 days) by 4pm London time. Any cargo not nominated by this time will remain with the participant last notified. After 4pm London time, the cargo becomes wet physical with precise loading dates attached.
4. Cargoes that are wet physical will be sold as a Dated Brent cargo with cargo loading dates between 10 and 25 days forward.

Figure 1 shows the makeup of the fields in the Forties pipeline system (FPS) which is operated by BP. There are over 50 offshore fields that flow through within the FPS. The delivery point for Forties crude oil is Hound Point, which is on the East coast of Scotland a short distance from the UK oil capital Aberdeen. Forties is a blended crude oil from all of the fields that feed into it.

Figure 1: Forties Pipeline System



The blend changed at the beginning of 2007 when crude oil from the Buzzard field began to flow into it. Crucially Buzzard is now the largest field within the FPS. Buzzard crude oil is a medium gravity, sour crude oil with an API of 32.6 and a sulphur content of 1.44% therefore the yield is very similar to that of Urals crude oil (from Russia). The FPS produces a forward forecast of the anticipated percentage of

Buzzard crude in Forties Blend⁷. The overall quality of Forties crude oil varies depending on the percentage of Buzzard as a proportion of the overall blend.

Table 1: Percentage of Crude from Buzzard Field Estimates⁸

	Buzzard %	Forties Blend Production (thousand b/d)
Aug-15	44%	408.60
Sep-15	38%	507.40
Oct-15	31%	495.60
Nov-15	34%	553.60

The startup of the Buzzard field feeding into the Forties pipeline system (see the map in Chart 1) has resulted in Forties being almost always the cheapest of the four grades to deliver as a dated Brent cargo due to the higher sulphur content of Buzzard compared to Forties and the fact that Buzzard makes up around 40% of the Forties blend.

Bloomberg LP (“Bloomberg”) provides details of the BFOE loading programs for the four grades that comprise the Brent market. Based on the most recent 3-year averages of the Bloomberg data on BFOE loadings (from July 2012 through 2015), loadings of Brent (BFOE) crude oil was approximately 857,200 barrels per day.

Table 2: Monthly Loadings of Brent, Forties, Oseberg, Ekofisk

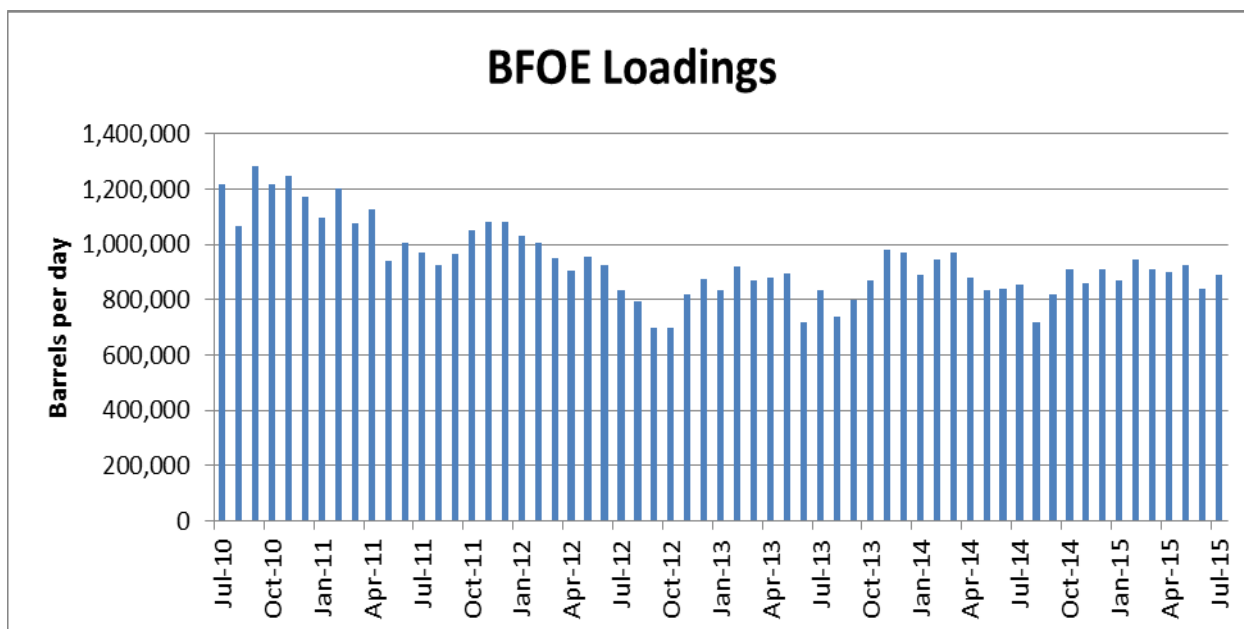
BFOE Loading	
Date	Quantity (b/d)
Jul-12	832,258
Aug-12	793,548
Sep-12	700,000
Oct-12	696,774
Nov-12	819,667
Dec-12	872,581
Jan-13	832,258
Feb-13	921,429
Mar-13	870,968
Apr-13	880,000
May-13	893,548
Jun-13	720,000

⁷ FPS – Forties Crude Oil (BP) http://www.bp.com/en/global/forties-pipeline/about_fps/forties_blend_quality.html

⁸ http://www.bp.com/en/global/forties-pipeline/about_fps/forties_blend_quality.html

Jul-13	832,258
Aug-13	735,484
Sep-13	800,000
Oct-13	870,968
Nov-13	980,000
Dec-13	967,742
Jan-14	890,323
Feb-14	942,857
Mar-14	967,742
Apr-14	880,000
May-14	832,258
Jun-14	840,000
Jul-14	851,613
Aug-14	716,129
Sep-14	820,000
Oct-14	909,677
Nov-14	860,000
Dec-14	909,677
Jan-15	870,968
Feb-15	942,857
Mar-15	909,677
Apr-15	900,000
May-15	922,581
Jun-15	840,000
Jul-15	890,323
3 Year Average	857,194
<i>Source: Bloomberg</i>	

Figure 2: Monthly Loadings of Brent, Forties, Oseberg, Ekofisk



The Brent market is priced in USD and cents per barrel. There are two significant Futures contracts based on trading activity in the forward BFOE market. NYMEX and ICE Futures Europe offer trading of Brent Futures on their respective Exchanges. The cash market is traded in partials of 100,000 barrels or larger full size cargo transactions of 600,000 barrels. Physical convergence can occur through the partials market mechanism upon the trading of six parcels with the same counterparty in a single delivery month. If physical convergence does not occur then trades are booked out at the prevailing cash value on the last day of trading day of the cash market for the specific delivery month (i.e. this is currently 25 days prior to the 1st loading date of the delivery month). Full sized physical cargo BFOE trades will be used by ICE in the establishment of the Brent Index5 which is the mechanism by which the futures open on expiry are cash settled.

The Dated Brent or Dated BFOE, as it is sometimes referred, reflects the value of the cheapest of Brent, Forties, Oseberg and Ekofisk, of 600,000 barrels, loading in the next 10-25 days and then month ahead from March 2015. Dated Brent is estimated to price around 50% of the global crude oil supply⁶. Within the North Sea and beyond grades are traded as a differential to Dated Brent or as a differential to cash Brent (BFOE). Each of the crude oil grades within BFOE are not the same quality, several adjustments have been made. In 2007 Platts included a sulphur de-escalator for Forties crude oil within its Dated Brent and Brent related instruments. The change was made in response to inclusion of sour crude Buzzard into the Forties pipeline system (see chart 1). The de-escalator of price is applied to deliveries above a minimum sulphur level of 0.6%. Every month, Platts establishes a USD value de-escalator for every 0.1% of sulphur above 0.6%. The value of de-escalator is established by reviewing evidence of significant and sustained changes in the crude market, as affected by refined products (crack spread values of both heavy fuel oils and light ends) and other relevant factors that affect the economics of Forties crude.

Analysis of Deliverable Supply

In its analysis of deliverable supply, the Exchange relied on actual loadings of BFOE crude oil, which is estimated at 857,200 barrels per day or 25.72 million barrels per month, which is equivalent to 25,716 contracts. The spot month position limit for the Brent leg of the LLS (Argus) vs. Brent Crude Oil Option of 4,000 contracts represent approximately 17.73% of the monthly deliverable supply.

Cash Market Overview

I. Methodology and Data Sources: Key Components of Estimated Deliverable Supply

There are three components NYMEX considered in updating the existing deliverable supply estimates of the Domestic Light Sweet Common Stream Crude Oil for the Cushing, Oklahoma delivery location:

- (A) Crude Oil Production;
- (B) Crude Oil Flows to the delivery area; and
- (C) Crude Oil Storage in the delivery area.

A. Crude Oil Production

For production, NYMEX used information collected by the U.S. Department of Energy (“DOE”) Energy Information Administration (“EIA”), which is a definitive source for this information. Other information is, in part, available from other sources as well, particularly at the state level from either energy or tax revenue authorities. We have chosen to rely on the EIA data alone because it constitutes a single source, employing common standards, across each state. The EIA data are highly regarded but they do not provide sufficient breakdown on the quality characteristics of the oil production to determine the subset of total production that would qualify as Domestic Light Sweet under the terms of the futures contract.

B. Crude Oil Flows to the Cushing Delivery Area

To determine the flows of Domestic Light Sweet crude oil into the delivery area, NYMEX consulted with industry executives and professionals from pipeline and storage terminal operators in Cushing as well as other major industry participants. It is noteworthy that the estimates provided here are materially less than the production that can readily access the delivery mechanism and which *could* be delivered due to the fact that the sources we used were specifically knowledgeable about *actual* Cushing deliveries. Thus, the information provided is not what *could be* delivered — the standard which is in accordance with Commission’s policy and precedent — but what actually *is* delivered. The Exchange believes that the Cushing delivery mechanism for light sweet crude oil and corresponding commercial secondary market constitutes such a sophisticated and highly-developed commercial market mechanism that, at any time, the actual flows to and stocks in the delivery area represent precisely the deliverable supply sufficient to support the mechanism. In other words, even though at any time there is additional production that *could* be delivered to the delivery mechanism, we are only including what *actually* flows in our estimate of deliverable supply.⁹

C. Crude Oil Storage in the Cushing Delivery Area

Storage data are provided on a weekly basis by EIA. Details are provided for the U.S., Petroleum Administration for Defense Districts (“PADDs”) and Cushing. There are five PADDs and, in some cases, they correspond to broad regions. PADD 2 broadly includes the Midwest; PADD 3 broadly includes U.S. Gulf Coast states and New Mexico; PADD 4 contains the Rocky Mountain States excluding New Mexico. Cushing is the only single location where crude oil official inventory numbers are collected and publicly disseminated on a regular basis anywhere in the world. The actual geographic market that is consistently most applicable to the NYMEX crude oil futures contract would, therefore, include much of PADD 2, not just Cushing.

Nonetheless, NYMEX includes only inventories reported at Cushing, so these underestimate relevant storage. As with production, EIA does not provide details on the quality characteristics of stored crude oil, but the industry experts with whom NYMEX consulted consistently estimated that 60% to 70% of the oil stored at Cushing qualified as Domestic Light Sweet Common Stream, (to be conservative, the Exchange will utilize 60% in its calculation).

⁹ We recognize that not including all production that could reasonably and readily access the delivery point represents a departure from the Commission’s stated methodology; but, since the Cushing secondary market is so sophisticated and highly-developed that it regularly supports physical delivery quantities that are more than 10 times greater than the quantity of physical throughput, such departure seems to introduce no material impairment in determining a reasonable deliverable supply that supports the physical delivery needs of the physical market. We are not suggesting that such departure be regularly applied in estimating deliverable supply for commodity markets; in fact, we can think of no other market where we would recommend doing so.

II. The Cushing Physical Delivery Mechanism: Scope of Deliverable Oil

The Cushing physical delivery mechanism is comprised of a network of nearly two dozen pipelines and 10 storage terminals, several with major pipeline manifolds. Two of the storage facilities — Enterprise and Enbridge — and their pipeline manifolds are the core of the Cushing physical delivery mechanism.¹⁰ Physical volumes delivered against the WTI Contract within the Enterprise and Enbridge systems are at par value. Any deliveries made on futures contracts elsewhere in Cushing require the Seller to compensate the Buyer for the lower of the transportation netbacks from these facilities to where the delivery occurs. Detailed information about the inflowing and outflowing pipelines is contained below in Table 2.

Terminating obligations in the NYMEX Light Sweet Crude Oil Futures contract fulfilled by delivering any of six “Domestic Production Streams of crude oil: West Texas Intermediate (“WTI”); Low Sweet Mix (“Scurry Snyder”); New Mexican Sweet; North Texas Sweet; Oklahoma Sweet; and South Texas Sweet. Additionally, a seventh stream, defined as “The Domestic Common Stream” transported by Enterprise Products’ (formerly Teppco Pipeline), is also deliverable. Market participants commonly refer to the combination of all of the deliverable streams, including the Domestic Common Stream, as “WTI.” Furthermore, the flow of each of these sweet crude streams is also commonly referred to as “Domestic Common Stream” within the complex that comprises the Cushing delivery mechanism, as well as in the WTI physical market which calls for delivery in the Cushing delivery mechanism.

III. Physical Market Trading Structure and Term Contracts

A. Physical Market Trading Structure

Typically, there is a chronology of sales and purchases of crude oil in the onshore U.S. market that starts with a sale from producer and finishes with a purchase by an end-user to consume the crude oil. First-sales are from producers to aggregators or other middleman-type firms with delivery at the property where it is produced. The first-sale buyer transports oil downstream from the point of sale. Usually the first-sale buyer resells the oil to someone other than the end-user but sometimes sells directly to the end-user.

Final sales are sales to end-users who when they consume the oil remove it from the supply chain. End-users, however, also resell oil. Such end-user re-sales sometimes occur during the same commercial cycle in which they purchased it; other times, they occur during a later commercial cycle after the oil has been stored for a period of time. Like end-users, other buyers of oil also can either resell it immediately or store it first for some period of time and then resell it later. Thus, it is a common commercial practice that the first-sale and multiple subsequent re-sales occur in the same delivery cycle.

As discussed above, the Cushing delivery market is essentially a major reseller market where buyers either: resell the oil to someone else; store the oil and resell it later; store the oil and then consume it later; or transport it to consume it. The Cushing market is essentially downstream of first-sales. Most of the sales in the Cushing market are for resale and not for either storage or final-sale; in fact, the physical market in “WTI,” in which the standard form of delivery is within the pipeline system at Cushing, is estimated to be 10-20 times the multiple of “WTI” oil that flows to Cushing. As such, it is clear that most sales are for resale because they constitute the selling, over-and-over (thus, *re-selling*), of the base physical oil that flows to Cushing. *Argus Media* documents about 5-8 times the flow in “WTI” sales but does not capture all of the sales.¹¹

B. Term Contracts

The Exchange has spoken with and interviewed a number of market participants regarding common commercial practices with respect to the use of term contracts in the U.S. onshore crude oil market.¹² The responses we received were consistent and they can be summarized as follows:

¹⁰ Three of the major sources for the cash-market information we provide in this analysis come from Plains All America, Enterprise and Enbridge. Enterprise oversees the vast majority of deliveries in the Cushing Delivery Market and, as indicated, Enterprise and Enbridge are the core delivery mechanism operators. Plains and Enbridge account for about 60% of the storage available at Cushing.

¹¹ The commercial market for physical delivery of light sweet crude oil in Cushing is a *secondary* (or *spot*) market mechanism. The number of physical deliveries in this market each month is 240 million barrels and higher (240,000 futures contracts equivalent and higher).

¹² These include: Plains All America, a major Midcontinent aggregator and marketer and operator of pipeline and storage terminals including in Cushing; JSK Consulting, the principal of which is a seasoned Midcontinent oil market participant and professional with 40 years of experience in trading, operating transportation and storage in

- Almost all first-sales of production are sold term; as discussed in the previous section, typically for delivery on the property where it is produced (or nearest gathering pipeline or holding tank), and typically to middleman-firms or aggregators. These middleman-firms typically resell the crude oil to other middleman-firms (or participants performing that function) or to end-users. Typically, the first-sales contracts are “evergreen” contracts that can be discontinued by either party with notice. NYMEX is including evergreen contracts in the “term contracts” category.
- There are no restrictions applied to the resale of crude oil bought first-sale on a term basis from producers. In fact, that would clearly not be applicable because sales are typically to aggregators or others acting in a middleman-firm role with the expressed responsibility of reselling the oil.
- The Cushing market is downstream of first-sales; in other words, Cushing is downstream of any term sales from producers. Thus, even if barrels were sold term by the producer, in the Cushing market those barrels are re-sold and re-delivered by either the purchaser from the producer or a subsequent purchaser from that original purchaser. The Cushing market mechanism, which consists of trading and physical delivery of light sweet crude oil, is a commercial secondary (or *spot*) market which is extremely liquid, comprised of broad participation and results in a substantial quantity of physical delivery of crude oil.
- Terms sales do not result in reducing the deliverable supply for Cushing. Market participants all agreed that crude oil purchased on a term sale is available for resale, including in the Cushing market, and that all market participants downstream of first-sales participate in the market for resale.
- Our sources expressly advised us that any production sold long-term was available for re-sale and this is especially the case in the Cushing market.

C. Data for Crude Oil Production

In the three-year period of 2012-2014, the average production of crude oil available in the eight States that supply crude oil to Cushing via pipeline and rail was approximately 137.5 million barrels per month. The production area includes North Dakota, Montana, Wyoming, Colorado, New Mexico, Onshore Texas, Oklahoma, and Kansas. Based on discussions with industry participants, our estimate of the portion of that average production which would qualify as Domestic Light Sweet Common Stream is 50% and higher— i.e., 68.8 million barrels per month. The 68.8 million barrels converts into 68,800 contracts equivalent of the WTI Contract.

Table 1 in the Appendix provides annual production data available for production in the eight States that supply the Cushing crude oil market for the period of 2012-2014. It shows that production has been steadily growing in recent years and this trend is expected to continue. As indicated above, the production data are provided not as direct inputs to deliverable supply, but to demonstrate that production levels are more than sufficient to support the actual flows of deliverable product to the delivery location.

D. Data for Crude Oil Flows to the Cushing Delivery Area

Over the last three years, pipeline capacity for delivering crude oil to Cushing increased by about 815,000 b/d according to the EIA¹³. The key development was the construction of the 590,000 b/d TransCanada Keystone pipeline that originates in Hardisty, Alberta, Canada. Until mid-2012, there was only one pipeline that could deliver crude oil from the Midwest to the Gulf Coast. The 96,000-bbl/d ExxonMobil Pegasus pipeline between Patoka, Illinois and Nederland, Texas originally shipped crude oil northward. The pipeline was reversed in 2006 in order to ship Canadian heavy oil to the Gulf Coast. Currently, there is approximately 3.0 million b/d of inflow pipeline capacity to Cushing and 2.7 million barrels per day of outflow capacity. In addition, 85.0 million barrels of storage capacity exists in the Cushing area which continues to grow steadily. Based on information provided by pipeline and storage terminal operators, actual flows of oil to Cushing have ranged from 1.6 to 1.8 million barrels per day in recent years, with Domestic Light Sweet Common Stream Crude Oil averaging between 920,000 and 1,000,000 barrels per day.¹⁴ On a 30-day monthly basis, this computes into 27.6 to 30.0 million barrels per month which converts into 27,600 to 30,000 of WTI contract equivalents of deliverable supply. Table 2 in the Appendix provides specific details of pipeline flows into Cushing. We note that we asked

Cushing, and refining; and an Energy Market Participant Group of several dozen market participants organized through Hunton & Williams LLP to discuss and comment on Regulatory issues.

¹³ http://www.eia.gov/forecasts/steo/special/pdf/2013_sp_02.pdf

¹⁴ The sources were: Plains All America, an aggregator and marketer of crude oil production and pipeline and storage terminal operator at Cushing; Enbridge, a pipeline and storage terminal operator at Cushing; and JSK Consulting, the principal of which is a seasoned Midcontinent oil market participant and professional with 40 years of experience in trading, operating transportation and storage in Cushing, and refining.

operators of pipeline terminals in Cushing if they would share specific data on flows of Domestic Light Sweet Common Stream Crude Oil stored at their facilities and they responded that such data were confidential.

The Exchange collects this information periodically but not on an on-going or scheduled basis. As indicated above, we did collect it when we updated the deliverable supply estimates in 2006 and 2011; and we collected it again in February 2013. Consequently, we are unable to provide a three year average of these data but we believe that an average of the 2013 and 2015 estimated flows data would be very close to an actual three year average (if we were able to calculate it). The average of the 2013 and 2015 data is 23,750 to 26,250 contract equivalents.

E. Data for Crude Oil Storage in the Cushing Delivery Area

Table 3 in the Appendix provides the weekly Cushing storage calculation starting with January 2012 and continuing through December 2014. During that time period, inventories averaged over 37 million barrels and ranged from about 19 to 51 million barrels. NYMEX asked operators of storage in Cushing if they would share specific data on quantities of Domestic Light Sweet Common Stream Crude Oil stored at their facilities and they responded that such data were confidential. As discussed above, the Exchange estimated that approximately 60% of the total oil stored at Cushing qualified as Domestic Light Sweet Common Stream.

As of September 30, 2014, EIA reports that shell storage capacity at Cushing was 85.0 million barrels and working capacity was 70.8 million barrels.¹⁵ Currently, there is substantial excess working capacity at Cushing (nearly 10 million barrels). Finally, it should be noted that, at least on a temporary basis, storage can exceed working capacity and it is common for an individual tank to reach 85-90% of shell capacity (which exceeds the 83% average underlying the EIA estimates).

The Exchange has estimated the average weekly storage of Domestic Light Sweet crude oil in Cushing for the three-year period beginning January 1, 2012 and ending December 31, 2014; it is 22,000,000 barrels of oil, which converts into 22,000 contract equivalents of WTI contracts. This estimate includes the 40% reduction to account for the proportion of total crude inventories that qualify as Domestic Light Sweet crude oil in Cushing. The Exchange has further evaluated both operational practices at storage facilities as well as commercial practices by customers of storage facilities to determine if some components of inventoried product could rightfully be considered *not* to be readily deliverable.

With respect to operational practices, based on discussions with some industry experts, the Exchange conservatively estimates that 6.75% of stored product, on average, is required for operational minimums.¹⁶ This converts into an estimated 1,500,000 barrels of Domestic Light Sweet crude oil based on the three-year average storage level (1,500 contract equivalents); so we subtract this amount from the estimated average storage from 2012 through 2014. The adjusted estimate due to subtracting operational minimums is 20,500 contract equivalents.

With respect to commercial practices, the Exchange specifically sought whether storage customers were expressly allotting any stored barrels at Cushing for refining and was, therefore, unavailable for secondary market delivery. We consistently heard from market participants that was not the case; that barrels stored at Cushing are not specifically targeted for scheduled refining. Rather, refiners typically store barrels targeted for scheduled refining in tanks on the premises at their respective refineries or at other storage facilities. However, we did hear from one refiner that they keep barrels stored at Cushing for the contingency that there could be some unexpected interruption in their refinery supply; and, rather than refine the barrels stored at Cushing, they use them to trade for other barrels they would refine. We are adjusting for this *contingency storage* in our estimate of deliverable supply by subtracting it. We estimate this quantity to be 2 million barrels (or 2,000 contract equivalents) of Domestic Light Sweet crude oil. Therefore, the corresponding adjustment to the average Domestic Light Sweet crude oil stored from 2012 through 2014 (adjusted for operational minimums and contingency storage) is 18,500 contract equivalents.

Analysis of Deliverable Supply

Combining the average for 2013 and 2015 of industry-based estimates of physical flow of deliverable oil to the delivery area each month with the three-year average industry-based estimates of deliverable oil stored in the delivery area between 2012 and 2014 (adjusted downwards for operational minimums and

¹⁵ <http://www.eia.gov/petroleum/storagecapacity/table2.pdf> Shell capacity is defined by EIA as the design capacity of a petroleum storage tank which is always greater than or equal to working storage capacity.

¹⁶ We have been advised that, for older tanks, the operational minimum is 9% and, for newer tanks, it is 4.5%. Our assessment is that the majority of tanks at Cushing would qualify as newer. Nonetheless, to be conservative, we have applied the mid-point percentage—6.75%-- for all of Cushing.

contingency storage) yields: 23,750 to 26,250 contracts equivalent plus 18,500 which ranges from 42,250 to 44,750 contract equivalents. The mid-point of this range, which is based on estimated three-year averages for physical flows and storage, is 43,500 contract equivalents, which is our estimated deliverable supply. Therefore, the spot month position limit for the Crude Oil leg of the option contract of 3,000 contracts is equivalent to 6.9% of the total monthly deliverable supply.

APPENDIX

Table 1
U.S. Crude Oil Production¹⁷
For Eight States that Supply Cushing, Oklahoma
(Thousands of Barrels per Month)

Year	Crude Oil Production (Thousands of Barrels)
2012	108,500
2013	136,200
2014	167,850
Average	137,500

¹⁷ The production listed here includes North Dakota, Montana, Wyoming, Colorado, New Mexico, Onshore Texas, Oklahoma, and Kansas. The web link is: http://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbb1pd_a.htm

Table 2
Crude Oil Flows to Cushing
(Barrels/Day)¹⁸

Incoming Pipelines	Capacity	Owner	Estimated Flows (in Barrels/Day)
Keystone XL (from Steele City, NE)	575,000	Transcanada	200,000 - 250,000 BD (Heavy sour)
Basin Pipeline (Permian)	450,000	Plains	250,000 (80% WTI)
Centurion North Pipeline (Permian)	120,000	Occidental	95,000 - 100,000 (100% WTI)
Spearhead Pipeline (Canada)	210,000	Enbridge	150,000 - 175,000 (Canadian sour)
Flanagan South (Canada/Bakken)	585,000	Enbridge	400,000 - 450,000 (10% WTI, 90% Sour)
White Cliffs Pipeline (Niobrara)	150,000	Rose Rock	100,000 - 120,000 (100% WTI)
Plains Cashion, OK Pipeline	100,000	Plains	80,000 (100% WTI)
Mississippi Lime Pipeline	175,000	Plains	110,000 (100% WTI)
Pony Express Pipeline (Niobrara)	320,000	Tallgrass	180,000 – 200,000 (100% WTI)
Hawthorn (Stroud to Cushing)	90,000	Hawthorn	20,000 – 25,000 (100% WTI)
Great Salt Plains	30,000	JP Energy	15,000 – 20,000 (100% WTI)
Northern Cimarron	30,000	Rose Rock	15,000 – 20,000 (100% WTI)
Midcontinent Pipeline	30,000	Sunoco Logistics	25,000 – 30,000 (100% WTI)
Glass Mountain Pipeline	140,000	Rose Rock	40,000 – 50,000 (100% WTI)

TOTAL In-Bound Capacity: 3.0 Million B/D

WTI Flow: 920,000 – 1,000,000 B/D

Outgoing Pipelines	Capacity (B/D)	Owner
Seaway Pipeline	850,000	Enterprise
Keystone MarketLink	700,000	Transcanada
BP#1 (to Chicago)	180,000	BP
Occidental Centurion South	60,000	Occidental
Ozark (to Wood River, IL)	235,000	Enbridge
Osage (to Eldorado, KS)	150,000	Magellan/NCRA
Coffeyville CVR pipeline	110,000	CVR Energy
Phillips (to Ponca City, OK)	122,000	ConocoPhillips
Phillips (to Borger, TX)	59,000	NuStar
PAA Red River Pipeline	30,000	Plains All America
Sun (twin lines to Tulsa)	70,000	Sunoco
PAA Cherokee	50,000	Plains
West Tulsa (to Tulsa)	50,000	Enbridge
Eagle (to Ardmore)	20,000	Blue Knight
Magellan Tulsa	30,000	Magellan
Diamond Pipeline (to Memphis)	200,000	Plains (in 2016)

TOTAL Out-bound Capacity: 2.7 Million B/D

¹⁸ Sources: Plains All American Pipeline Company, JSK Consulting, and other industry sources.

Table 3
Cushing Storage¹⁹

Average of Weekly Stocks (in Thousand Barrels)		
Year	Month	
2012	Jan	29,037
	Feb	32,237
	Mar	38,651
	Apr	41,619
	May	45,725
	Jun	47,596
	Jul	46,162
	Aug	44,895
	Sep	43,874
	Oct	43,912
	Nov	44,657
	Dec	48,177
2013	Jan	51,253
	Feb	50,711
	Mar	49,567
	Apr	50,551
	May	49,916
	Jun	49,193
	Jul	44,798
	Aug	37,432
	Sep	33,254
	Oct	33,618
	Nov	39,174
	Dec	40,412
2014	Jan	41,058
	Feb	35,099
	Mar	29,081
	Apr	26,474
	May	22,750
	Jun	21,226
	Jul	19,480
	Aug	19,496
	Sep	20,263
	Oct	20,274
	Nov	23,559
	Dec	28,080
Three-Year Average		37,300

¹⁹ http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPCO_SAX_YCUOK_MBBL&f=W