

April 24, 2015

#### **VIA ELECTRONIC MAIL**

Mr. Christopher Kirkpatrick Secretary of the Commission Commodity Futures Trading Commission Three Lafayette Centre 1155 21st Street, N.W. Washington, DC 20581

Re: Re-Opening of Comment Period for Position Limits for Derivatives (RIN 3038-AD99) and Aggregation of Positions (RIN 3038-AD82) [Finalized Deliverable Supply Estimates and Underlying Analysis]

Dear Mr. Kirkpatrick:

On March 30, 2015, CME Group Inc. ("CME Group")<sup>1</sup> submitted to the Commodity Futures Trading Commission ("Commission") an updated summary chart of preliminary deliverable supply estimates for eighteen (18) physical commodities underlying futures contracts listed by CME Group Exchanges ("2015 Estimates"). The preliminary 2015 Estimates were included in the CME Group's response to the Commission's re-opening of the comment period<sup>2</sup> for the "Position Limits for Derivatives" ("Position Limits Proposal")<sup>3</sup> and "Aggregation of Positions" ("Aggregation Proposal")<sup>4</sup> notice of proposed rulemakings.

CME Group hereby respectfully submits to the Commission finalized 2015 deliverable supply estimates. The finalized 2015 Estimates are summarized in chart format and attached under separate cover as Appendix A.

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<sup>&</sup>lt;sup>1</sup> CME Group is the holding company for four separate U.S.-based Exchanges, Including the Chicago Mercantile Exchange Inc. ("CME"), the Board of Trade of the City of Chicago, Inc. ("CBOT"), the New York Mercantile Exchange, Inc. ("NYMEX"), and the Commodity Exchange, Inc. ("COMEX") (collectively, the "CME Group Exchanges" or "Exchanges"). CME Clearing is one of the largest central counterparty clearing services in the world; it provides clearing and settlement services for exchange-traded contracts and over-the-counter ("OTC") derivatives contracts through CME ClearPort®. The CME ClearPort® service mitigates counterparty credit risks, provides transparency to OTC transactions, and brings to bear the exchanges' market surveillance monitoring tools.

<sup>&</sup>lt;sup>2</sup> See Position Limits for Derivatives and Aggregation of Positions, 80 Fed. Reg. 10022 (Feb. 25, 2015).

<sup>&</sup>lt;sup>3</sup> Position limits for Derivatives, 78 Fed.Reg.75680 (Dec. 12, 2013).

<sup>&</sup>lt;sup>4</sup> Aggregation of Positions, 78 Fed. Reg. 68946 (Nov. 15, 2013).

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The finalized 2015 Estimates reflect a slight downward deliverable supply revision in Light Sweet Crude Oil and New York Harbor ULSD. The finalized 2015 Estimates also reflect the appropriate conversion ratio between NYMEX Henry Hub Natural Gas contract equivalents and units of deliverable mmBtu.

CME Group is also providing the underlying analysis used to derive the 2015 Estimates, attached under separate cover as Appendix B. CME Group is providing this analysis to facilitate the Commission's verification of the 2015 Estimates as reasonable and to assist it in developing spot-month position limit guidance and regulations for both the physical-delivery and cash-settled contract markets.

\* \* \* \*

CME Group thanks the Commission for the opportunity to further comment on the Position Limits and Aggregation of Positions proposals. Should you have any comments or questions regarding this submission, please contact me by telephone at (312) 930-3488 or by e-mail at <a href="mailto:Kathleen.Cronin@cmegroup.com">Kathleen.Cronin@cmegroup.com</a>; Thomas LaSala, Managing Director, Chief Regulatory Officer by telephone at (212) 299-2897 or by e-mail at <a href="mailto:Thomas.LaSala@cmegroup.com">Thomas.LaSala@cmegroup.com</a>; or Bruce Fekrat, Executive Director and Associate General Counsel by telephone at (212) 299-2208 or by e-mail at Bruce.Fekrat@cmegroup.com.

Sincerely,

Cathleen Cronin

Senior Managing Director,

**General Counsel and Corporate Secretary** 

Attachments

# **APPENDIX A**

Finalized 2015 Estimates

(Attached under separate cover)

# **APPENDIX B**

Underlying Analysis for the 2015 Estimates

(Attached under separate cover)

# **APPENDIX A**

Exchange	Contract	Deliverable Supply	Deliverable Supply in Contract Units	Deliverable Supply Time Frame	Brief Description Deliverable Supply	Federal Limit Today	Exchange Limit	Current Limit % of Deliverable Supply
NYMEX	Light Sweet Crude Oil	43,500,000	43,500	2012-2014	Physical Flow and Storage	N	3,000	6.90%
NYMEX	RBOB Gasoline	30,000,000 barrels	30,000	2012-2014	Refinery Production Flows, Storage levels	N	1,000	3.33%
NYMEX	New York Harbor ULSD	23,500,000 barrels	23,500	2012-2014	Refinery Production, Net Import, Flows, Storage levels Production and Storage, with	N	1,000	4.26%
NYMEX	Henry Hub Natural Gas	169,800,000 mmBtu	16,980	2012-2014	constraint of capacity	N	1,000	5.89%
NYMEX	Platinum	215,450 troy ounces	4,309	2012-2014	Inventory in COMEX warehouses	N	500	11.60%
NYMEX	Palladium	455,400 troy ounces	4,554	2012-2014	Inventory in COMEX warehouses	N	500 *	10.98%
COMEX	Gold	9,193,700 troy ounces	91,937	2012-2014	Inventory in COMEX warehouses	N	3,000	3.26%
COMEX	Silver	158,425,000 troy ounces	31,685	2012-2014	Inventory in COMEX warehouses	N	1,500	4.73%
COMEX	Copper	152,100,000 lbs.	6,084	2012-2014	Inventory in COMEX facilities & LME facilities in close proximity to COMEX with constraint of capacity warehouses	N	1,000 *	16.44%
СВОТ	Corn	14,610,000 bushels	2,922	2012-2014	Stocks and Movement through Lock 8	Y	600	20.53%
СВОТ	Soybeans	22,530,000 bushels	4,506	2012-2014	Stocks and Movement through Lock 27	Y	600	13.32%
СВОТ	Wheat	58,210,000 bushels	11,642	2012-2014	Stocks and Movement through Lock 52	Y	600	5.15%
СВОТ	Oats	14,930,000 bushels	2,986	2012-2014	Stocks at Delivery Facilities	Y	600	20.09%
СВОТ	Rough Rice	18,630,000 cwt.	9,315	2012-2014	Stocks at Delivery Facilities	N	600 (200 July/250 Sept)	6.44%
СВОТ	Soybean Oil	990,180,000 lbs.	16,503	2012-2014	NOPA Stocks	Y	540	3.27%
СВОТ	Soybean Meal	1,755,600 Short Tons	17,556	2012-2014	NOPA Stocks	Y	720	4.10%
CME	Class III Milk	4,639,000,000 lbs.	23,195	2012-2014	Production from FMMO	N	1,500 Any Month	6.47%
СВОТ	KC Wheat	65,060,000 bushels	13,012	2012-2014	Stocks at Delivery Facilities	Υ	600	4.61%
* Exchange lim	it changed since previous delivera	ble supply estimates were prov	rided 7-1-13					

# **CBOT Wheat Deliverable Supply Analysis**

# Background:

All wheat production in the United States this past season was 2.135 billion bushels with soft red winter wheat representing 0.568 billion bushels. Soft red winter wheat, which is the underlying wheat class for the CBOT Wheat futures contract, is primarily used to make cookies, cakes and crackers and also as a livestock feed. USDA estimates the 2014/15 U.S. soft red winter wheat crop at 0.455 billion bushels, a 19.9 percent reduction compared to 2013/14.

# **CBOT Wheat Futures Delivery Capacity (Updated Annually):**

The following territories are defined for delivery in CBOT Wheat futures:

- A. Chicago and Burns Harbor, Indiana Switching District The Chicago Switching District is the area geographically defined by Tariff ICC WTL 8020-Series and that portion of the Illinois Waterway at or above river mile 304 which includes the Calumet Sag Channel and the Chicago Sanitary & Ship Canal. The Burns Harbor, Indiana Switching District is the area geographically defined by the boundaries of Burns Waterway Harbor at Burns Harbor, Indiana which is owned and operated by the Indiana Port Commission.
- B. The Toledo, Ohio Switching District. The Toledo, Ohio switching district includes any facility that has a Toledo tariff.
- C. St. Louis-East St. Louis and Alton Switching District The St. Louis-East St. Louis and Alton Switching Districts will be the portion of the upper Mississippi River below river mile 218 at Grafton, IL and above river mile 170 at Jefferson Barracks Bridge in south St. Louis, MO.
- D. The Northwest Ohio Territory shall be shuttle loading facilities within the following 12 counties: Allen, Crawford, Hancock, Hardin, Henry, Huron, Marion, Putnam, Sandusky, Seneca, Wood, and Wyandot.
- E. The Ohio River facilities shall be river loading facilities on the Ohio River from mile marker 455 to the Mississippi River.
- F. The Mississippi River facilities shall be river loading facilities on the Mississippi River downriver from the St. Louis-East St. Louis Alton Switching District to mile marker 715.

Facilities approved for delivery on Wheat futures in the Mississippi River, Ohio River and St. Louis-East St. Louis-Alton territories are limited in the number of shipping certificates that they may issue to an amount not to exceed 20 times their total daily rate of loading barges, while facilities in the Chicago, Burns Harbor, Toledo and Northwest Ohio delivery territories shall not deliver more than their registered

storage capacity. As of March 2015, firms regular for delivery on CBOT Wheat futures had approved capacity to issue 41,518 shipping certificates or 207.59 million bushels of wheat.

Below are the facilities regular for delivery on Wheat futures in March 2015 along with the maximum number of shipping certificates they may issue, with each shipping certificate equivalent to 5,000 bushels:

Firm	Location	Max Certificates
Cargill, Inc.	Burns Harbor Elevator Portage, IN	1,553
Chicago & Illinois River Marketing LLC	Elevator B Chicago, IL	2,462
The Andersons	Andersons-Illinois Elevator Maumee, Ohio	3,391
The Andersons	River Elevator Toledo, Ohio	1,240
The Andersons	Conant Street Elevator Maumee, Ohio	656
The Andersons	Edwin Drive Elevator Toledo, Ohio	1,180
The Andersons	Toledo, Ohio (Reynolds Rd)	196
ADM Grain Company	Toledo Elevator Toledo, Ohio	1,959
ADM Grain Company	Ottawa Lake Elevator Ottawa Lake, MI	2,372
ADM Grain Company	Sauget, IL	220
Archer-Daniels-Midland Co.	St. Louis Elevator St. Louis, MO	314
Cargill Inc.	Elevator East St. Louis, IL	440
ConAgra Foods, Inc.	Alton, IL	677
Consolidated Grain and Barge	Cahokia, IL	220
Cargill, Inc.	Lima, OH	385
Deshler Farmers Elevator Company	Custar, OH	605
Sunrise Cooperative	Clyde, OH	1,655
Sunrise Cooperative	Galion, OH	1,397
Sunrise Cooperative	Wakeman, OH	1,698
Heritage Cooperative, Inc.	Upper Sandusky, OH	705
Heritage Cooperative, Inc.	Kenton, OH	720
Blanchard Valley Farmers Cooperative Inc.	Fostoria, OH	1,710
Blanchard Valley Farmers Cooperative Inc.	Findlay, OH	583
Bunge North America	Fairmont City, IL	440
ADM Grain Company	Newburgh, IN	440
ADM Grain Company	Evansville, In (Broadway)	440
ADM Grain Company	Evansville, IN (Dixie Flyer)	220
ADM Grain Company	Rockport, IN	440
ADM Grain Company	Mound City, IL	440
ADM Grain Company	Paducah, KY	220
ADM Grain Company	Ledbetter, KY	220
ADM Grain Company	Silver Grove, KY	440
ADM Grain Company	Henderson, KY	220

Bunge North America	Owensboro, KY	220
Bunge North America	Shawneetown, IL	440
Cargill, Inc.	Cincinnati, OH (Kellogg Avenue)	220
Cargill, Inc.	Cincinnati, OH (River Road)	220
Cargill, Inc.	Evansville, IN	220
Cargill, Inc.	Mt. Vernon, IN	440
Consolidated Grain and Barge	Cincinnati, OH (Anderson Ferry)	220
Consolidated Grain and Barge	Cincinnati, Oh (Southside Riverside)	220
Consolidated Grain and Barge	Aurora, IN	220
Consolidated Grain and Barge	Jeffersonville, IN	220
Consolidated Grain and Barge	Mt. Vernon, IN	220
Consolidated Grain and Barge	Mound City, IL	220
Consolidated Grain and Barge	Uniontown, KY	220
Gavilon Grain LLC	Maceo, KY	220
Gavilon Grain LLC	Henderson, KY	440
Owensboro Grain Company	Owensboro, KY	220
ADM Grain Company	New Madrid, MO	440
ADM Grain Company	Memphis, TN	440
Bunge North America	Grand Tower, IL	220
Bunge North America	Hickman, KY	440
Bunge North America	Portageville, MO	440
Bunge North America	Caruthersville, MO	440
Bunge North America	Finley, TN	220
Bunge North America	Blytheville, AR	440
Bunge North America	Osceola, AR (Riverside)	220
Bunge North America	Osceola, AR (Landside)	220
Bunge North America	Memphis, TN	220
Bunge North America	West Memphis, AR	440
Cargill, Inc.	Buffalo Island, MO	220
Cargill, Inc.	New Madrid, MO	220
Cargill, Inc.	Hickman, KY	220
Cargill, Inc.	Tiptonville, TN	220
Cargill, Inc.	Memphis, TN	220
Consolidated Grain and Barge	Charleston, MO	220
Consolidated Grain and Barge	Cape Girardeau, MO	220
Consolidated Grain and Barge	Caruthersville, MO	220
Consolidated Grain and Barge	Caruthersville, MO (Cottonwood Point)	220
Consolidated Grain and Barge	East Prairie, MO	220
Consolidated Grain and Barge	Scott City, MO	220
Consolidated Grain and Barge	Osceola, AR	220
Consolidated Grain and Barge	West Memphis, AR	220

Poinsett Rice and Grain, Inc.	Osceola, AR	220
The Scoular Company	Memphis, TN	220

# **CBOT Wheat Futures Deliverable Supply Procedures and Estimate (Updated Annually):**

Each Tuesday the Registrar's Office publishes wheat meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities. The USDA-AMS publishes a weekly Grain Transportation Report (GTR) that covers developments affecting the transport of grain, both in the domestic and international marketplace (<a href="http://www.ams.usda.gov/AMSv1.0/gtr">http://www.ams.usda.gov/AMSv1.0/gtr</a>). This weekly publication reports on the latest volume and price data for barges, railroads, trucks, and ocean vessels involved in the transport of grain. Included in this report is the amount of wheat shipped through Lock 52<sup>1</sup> on the Ohio River, which is a measure of wheat flowing through the Ohio River delivery territory for Wheat futures.

Deliverable supply is estimated as the stocks of grain in regular facilities on the Friday prior to First Notice Day plus the amount of wheat that passes through Lock 52 on the Ohio River during the four weeks prior to First Notice Day<sup>2</sup>. This is likely a very conservative estimate of deliverable supply because it does not count the significant amount of wheat that is likely near the delivery facilities and could easily be placed into delivery position very quickly.

Futures Contract Expiration	Wheat Movement through Lock 52 on the OH River during the 4 Weeks Prior to FND (1M Bushels)	Stocks of Wheat in Regular Facilities on the Friday prior to FND (1M Bushels)	Total Stocks (1M Bushels)
Mar-14	0.53	42.88	43.41
Mar-13	4.84	60.94	65.78
Mar-12	0.81	72.34	73.15
MAR AVG	2.06	58.72	60.78

<sup>&</sup>lt;sup>1</sup> http://marinas.com/view/lock/31 Ohio River Lock 52 Brookport IL United States

<sup>2</sup> This analysis does not include SRW wheat flowing down the Illinois and Upper Mississippi Rivers that would also be deliverable on the CBOT Wheat futures contract in the Alton – St. Louis delivery territory. Wheat statistics are available on the lowest lock on the Mississippi River, which would capture these data, but because these stocks are not differentiated between classes and likely contain significant amounts of spring wheat, the Exchange decided not to include these stocks in this analysis. Spring wheat is deliverable on CBOT Wheat futures, but rarely if ever delivered, so this analysis focuses on SRW wheat. Ohio River stocks included in this report are predominantly, if not virtually all, SRW wheat.

AVG ALL DELV MONTHS	2.76	55.45	58.21
DEC AVG	0.21	59.93	60.14
Dec-12	0.40	82.20	82.60
Dec-13	0.05	54.61	54.66
Dec-14	0.18	42.99	43.17
SEP AVG	8.41	63.87	72.28
Sep-12	0.96	84.95	85.90
Sep-13	16.51	62.30	78.81
Sep-14	7.76	44.35	52.11
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JUL AVG	1.35	49.25	50.60
Jul-12	2.24	76.54	78.78
Jul-13	1.45	38.95	40.40
Jul-14	0.35	32.27	32.62
MAY AVG	1.77	45.46	47.23
May-12	1.87	63.48	65.35
May-13	1.64	41.75	43.39
May-14	1.80	31.15	32.95

As the table above shows, estimated deliverable supply for all delivery months over the past three calendar years has been 58.21 million bushels or 11,642 contract equivalents. The delivery month with the largest estimated deliverable supply is the September expiration with average delivery stocks of 72.28 million bushels (14,456 contract equivalents) and the delivery month with the smallest estimated deliverable supply is the May expiration with average delivery stocks of 47.23 million bushels (9,446 contract equivalents).

Unfortunately there is no readily available data on wheat under long-term contracts or agreements that could not be delivered on futures and should not be counted in deliverable supply estimates. To get a sense of the extent wheat is under long-term agreements and not deliverable, the Exchange reached out to the wheat regular delivery firms ADM, Cargill, and Nidera. Feedback from these firms indicates generally zero (0) percent of wheat in their facilities is under long-term agreement and could not be delivered against Wheat futures. One firm indicated generally zero percent under long-term agreement but at the very most five percent during some limited time frames. Given this feedback and the conservative nature of the estimate, the Exchange does not believe wheat stocks under long-term agreements significantly affect deliverable supply.

Twenty-five percent of the average estimated deliverable supply (11,642 contracts) is 2,910 contracts and 25 percent of the smallest estimated monthly deliverable supply (9,446 contracts) is 2,361 contracts. The spot-month position limit in CBOT Wheat futures is 600 contracts.

## Class III Milk Deliverable Supply Analysis

Represented in the table below is the total annual Class III Milk production for the ten reporting Federal Milk Marketing Orders (FMMO) in the United States broken out by month from 2012 – 2014. Class III Milk is also known by the industry as cheese milk. The Class III Milk contract represents milk used mainly in the manufacturing of cheddar cheese. All factors affecting milk production and cheese cash prices influence the price direction of this contract.

The Federal Milk Marketing Orders were established in 1937 to provide "orderly" marketing conditions for interstate commerce, income parity for farmers and to increase the bargaining power of farmers. About 70 percent of U.S. milk production is covered by the Federal Orders. California is the only major milk-producing region that is not in a Federal Order. California, however, operates its own state milk pricing plan that is similar to the Federal Orders. Specifically, the Federal Orders set the price of milk used in the following classes: Class I- Fluid drinking milk; Class II- Soft products, like yogurt, ice cream, and dairy-based drinks; Class III- Cheese, including cream cheese; and Class IV- butter and dried milk powders.

For example, a fluid milk processor who also produces ice cream would pay the Class I Milk price and butterfat price used to produce a gallon of 2 percent milk. It would pay the Class II price for milk and butterfat used to produce ice cream. Meanwhile a dairy farmer within the Federal Order receives a market-average price or "blend price" based on the way milk is used in that market. For example, in Wisconsin, which is predominantly a cheese-production state, a dairy farmer's blend price typically consists of about 20 percent of the Class I price, 2.5 percent of the Class II price, 75 percent of the Class III price and 2.5 percent of the Class IV price.

All class prices within the Federal Orders are calculated from product price formulas. The Class I price is determined based on the higher of either the Class III or Class IV price using USDA surveyed price data from the first two weeks of the month. This, plus a Class I differential, determines the Class I price for the following month. The Class II price is the Class IV price, plus \$.70 per cwt. But the two key formulas are the Class III and Class IV prices – the two prices traded at CME Group. Both prices are calculated from a full month of USDA-surveyed price data and published on the Wednesday before the fifth of the following month. (If the fifth is a Wednesday, it is published on that Wednesday.) In other words, the September 2014 Class III and Class IV prices were calculated and published on Wednesday, October. 1. CME Group Class III and Class IV futures contracts settle to these USDA prices.

The Class III price formula is determined from three components: a butterfat price, a protein price and another solids price. These prices are derived from weighted averages of USDA-surveyed cheese, butter and whey prices for the month. The formulas are:

## Butterfat Price = Round ((NASS Grade AA Butter Price – \$0.1715) x 1.211, 4)

- \$0.1715 is the butter manufacturing cost
- 1.211 equals the pounds of butter produced from one pound of butterfat
- 4 represents the number of decimal points the price is rounded to

# Protein Price = Round ((NASS Cheese Price - \$0.2003) x 1.383 + (((NASS Cheese Price - \$0.2003) x 1.572) - ((BF x 0.9)) x 1.17, 4)

Note: This is a two-part formula because the first multiplier -1.383 – represents the contribution of protein to the cheese yield, while the second multiplier -1.572 – reflects the contribution of butterfat to the cheese yield.

- The NASS cheese price is the weighted average of the block and barrel cheese prices for the month. The USDA adds \$.03 per pound to the barrel cheese price before calculating the weighted average. The USDA does this to avoid using a different make allowance for both block and barrel cheese prices. Traditionally, the industry has recognized a \$.03 per pound discount to produce barrel cheese. This is also reflected in the USDA support prices for block and barrel cheese at \$1.1314 per pound and \$1.1014 per pound, respectively.
- \$0.2003 is the cheese manufacturing cost
- 1.383 and 1.572 reflect yield factors

• 90 percent of the butterfat value is removed from the protein value to reflect the whey cream that is not used in cheese making.

Other Solids Price = ((NASS Whey Price – \$0.1991) x 1.03, 4) The Class III Price = (3.5 x BF Price) + ((3.1 x Protein Price) + (5.9 x Other Solids Price)) x .965

- \$0.1991 is the whey manufacturing cost
- If the NASS whey price is less than the manufacturing allowance, the other solids price can be negative
- 1.03 is the yield factor

The historical data is collected from each of the FMMO by the United States Department of Agriculture's, Agricultural Marketing Service and is available at:

http://www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?startIndex=1&template=TemplateV&navID=IndustryMarketingandPromotion&leftNav=IndustryMarketingandPromotion&page=MilkMarketingandUtilizationIndividualOrdersYeartoDate&acct=dmktord

The Class III Milk contract does not have a spot position limit. Rule language for the Class III Milk contract states – "No person shall own or control more than: 1,500 contracts long or short in any contract month..." Thus, using 1,500 as a starting point for a spot position limit combined with the contract size of 200,000 pounds produces a total spot limit weight of 300,000,000 pounds.

Using the total spot weight and comparing it to the average weight on a monthly basis, a percentage of deliverable supply is then calculated for each contract month.

It should be noted that the Class III Milk contract is cash-settled, and "...all contracts open as of the termination of trading shall be cash settled based upon the USDA Class III price for milk for the particular month, as first released."

	Monthly Class III Milk Production (Billions of Pounds)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	4.891	4.899	5.388	5.130	5.267	3.593	2.929	2.905	2.638	2.400	2.874	4.618
2013	4.906	4.776	5.416	5.310	4.987	5.295	5.317	5.208	4.983	5.222	4.972	5.315
2014	5.283	3.554	5.277	4.174	5.664	5.587	5.627	5.605	5.040	3.321	3.410	5.220
Average Weight Spot Limit	5.027	4.410	5.360	4.871	5.306	4.825	4.624	4.573	4.220	3.648	3.752	5.051
(Millions of lbs.)	300	300	300	300	300	300	300	300	300	300	300	300
Spot Limit Percentage	0.597	0.680	0.560	0.616	0.565	0.622	0.649	0.656	0.711	0.822	0.800	0.594

These numbers are representative of USDA Class III Milk for the particular month and are considered directly relevant to the deliverable supply of this product. The average monthly deliverable supply for all months over the past three calendar years has been 4.639 billion pounds or 23,195 contract equivalents. The delivery month with the largest deliverable supply is the March expiration with average deliverable stocks of 5.360 billion pounds (26,800 contract equivalents) and the delivery month with the smallest deliverable supply is the October expiration with average delivery stocks of 3.648 billion pounds (18,200 contract equivalents).

The chart as follows is adapted to identify the spot month limit that would represent 25% of our estimate of the deliverable supply. The total average of these numbers which equals approximately 5,799 contracts, best represents a historical view of spot month expirations. However, according to internal estimates, open interest suggests that the future single month limit in Class III Milk will be approximately 3,200 contracts. This represents an unusual circumstance in that the spot month speculative limit would be greater than the non-spot speculative limit.

	Monthly Class III Milk Production (Billions of Pounds)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	4.891	4.899	5.388	5.130	5.267	3.593	2.929	2.905	2.638	2.400	2.874	4.618
2013	4.906	4.776	5.416	5.310	4.987	5.295	5.317	5.208	4.983	5.222	4.972	5.315
2014	5.283	3.554	5.277	4.174	5.664	5.587	5.627	5.605	5.040	3.321	3.410	5.220
Average Weight Calculate Spot	5.027	4.410	5.360	4.871	5.306	4.825	4.624	4.573	4.220	3.648	3.752	5.051
month limit	6,283.26	5,511.98	6,700.39	6,089.36	6,632.65	6,031.07	5,780.38	5,715.83	5,275.42	4,559.58	4,690.00	6,313.75

Total Average = 5,798.64

# **Copper Futures**

# **Analysis of Deliverable Supply**

## I. Key Components of Supply

#### A. Production

According to U.S. Geological survey, the world produced 16.9 million metric tons of primary copper in 2012 and estimates the production to increase to 17.9 million metric tons in 2013. Specifically, Latin America (with Chile heading the region) is the largest copper mined producer in the world and producing over 7 million metric tons of copper in 2012.<sup>1</sup>. The U.S. made up 6.9% of the world's copper mined production in 2012<sup>2</sup>. Table 1 below indicates the world production of primary copper in 2013 (estimated) compared to 2012.

Table 1<sup>3</sup>: The World Primary Production of Copper (thousand metric tons)

Countries	Production in 2012	Production in 2013(est.)
U.S	1,170	1,220
Australia	958	990
Canada	579	630
Chile	5,430	5,700

<sup>&</sup>lt;sup>1</sup> http://www.icsg.org/index.php/component/jdownloads/finish/170/1188

<sup>&</sup>lt;sup>2</sup> http://minerals.usgs.gov/minerals/pubs/commodity/copper/mcs-2014-coppe.pdf

<sup>3</sup> http://minerals.usgs.gov/minerals/pubs/commodity/copper/mcs-2014-coppe.pdf

China	1,630	1,650
Congo	600	900
Indonesia	360	380
Kazakhstan	424	440
Mexico	440	480
Peru	1,300	1,300
Poland	427	430
Russia	883	930
Zambia	690	830
Other countries	2,000	2,000
Total	16,900	17,900

Source: U.S. Geological Survey

U.S. mine production of copper in 2013 is estimated to be 1.22 million metric tons and valued at about \$9 billion. The principal mining states – Arizona, Utah, New Mexico, Nevada, and Montana – in descending order of production - accounted for more than 99% of domestic production. Even though the demand decreased since the financial crisis in 2008, the supply diminished during the same time period. U.S. mine production increased by 4% in 2013 mainly due to a significant increase in production in Utah when production at Bingham Canyon mine resumed following a production halt in April 2013 due to a rock slide. Domestic mine and refined production of copper are expected to increase significantly in 2014. Global refined copper output is expected to exceed demand as a result of more modest demand growth in China. Copper prices ranged from a high on \$3.7755/lb. at the beginning of the year, dropping to a low of \$3.0260/lb. by mid-year, and

<sup>&</sup>lt;sup>4</sup> http://minerals.usgs.gov/minerals/pubs/commodity/copper/mcs-2014-coppe.pdf

<sup>&</sup>lt;sup>5</sup> http://minerals.usgs.gov/minerals/pubs/commodity/copper/mcs-2014-coppe.pdf

then rebounding to the \$3.40/lb. level by the end of 2013. Overall, copper prices fell about 8% year over year as accelerating mine production and periodic concerns over global growth weighed on prices.

#### B. Warehouse Stocks

By the rules of the Exchange, each Warehouse is required to furnish to the Exchange the level of Exchange grade inventory on a daily basis. The level of Exchange copper publically available daily inventories is made on the Exchange website (http://www.cmegroup.com/market-data/reports/registrar-reports.html). Further, the rules of the Exchange require an independent inventory audit to be performed annually to provide a comprehensive reconciliation of stocks stored in the Warehouses with records maintained by both the Exchange and the Warehouse<sup>6</sup>. Warranted stock is that material which meets the specifications of the Copper futures contract for which a warrant has been issued. In addition to the warranted stocks, there is an eligible the Market Regulation staff of the Exchange monitors these Warehouses on a regular basis and requires an inventory audit to be performed annually. In addition to the warranted stocks, there is a non-warranted category of category of stocks which is that material that meets the specifications of the Copper Futures contract, but for which no warrant has been issued. The eligible stocks are readily available to be placed on warrant and readily available to deliver against Copper Futures contracts and, hence, are considered to be a component of deliverable supply.

II. The Deliverable Supply Estimate Underlying the Existing Position Limit and Market Changes

## A. Past Position Limit Approval and Deliverable Supply Estimate

The Exchange had last reviewed the position limits for the Copper Futures contract in October 2014. Based on a review of the metal considered readily available for delivery against the Copper Futures contract, the spot month position limit for Copper was increased from 400 to 1,000 contracts.

#### B. Market Changes and Forecasts

Copper is a commodity which historically is sensitive to world-wide economic growth. Prices fell by 8% year over year and represented the second consecutive year of decline from the record highs set in 2011. While prices across the majority of commodities and, specifically the metals markets, were impacted by the macroeconomic outlook and pricing in of Federal Reserve tapering, copper prices also faced headwinds from rising mine

<sup>&</sup>lt;sup>6</sup> The Exchange rules require an annual inventory audit in compliance with Exchange procedures to be performed at the Warehouse by an independent auditor and to prepare and submit to the Exchange an audit report certifying the records of the Warehouse accurately reflect the Exchange's records.

supply and a weakening fundamental backdrop. Most recently, concerns over Chinese economic growth and the sustainability of the copper financing trade have placed renewed pressure on copper prices. Globally, world mine production of copper in 2013 was 17.8 million metric tons.<sup>7</sup>

# III. Updated Deliverable Supply Estimate and Supporting Data

The Exchange believes that reliable and conservative estimates for the deliverable supply come from existing inventories in its Exchange Approved Warehouses ("Warehouse") for Exchange delivery.

In estimating deliverable supply for Copper Futures, we relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical warehouse stocks that could reasonably be considered to be reliably available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

In general, the term "deliverable supply" 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.<sup>8</sup>

Accordingly, there are two categories of stocks considered in updating the existing deliverable supply estimates underlying the Copper Futures contract:

- (1) Registered (Warranted) Stocks
- (2) Eligible (Non-Warranted) Stocks

#### A. Approved Warehouses

To determine inventory estimates, staff reviewed information provided by the Warehouses. For Copper, the Warehouse companies include Arizona Commodity Storage, C. Steinweg (Baltimore), Scale Distribution Services, Dalby Moving and Storage, Henry Bath LLC,

<sup>&</sup>lt;sup>7</sup> GFMS Copper Survey (https://forms.thomsonreuters.com/gfms/)

<sup>&</sup>lt;sup>8</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

MetalStore, Southwest Commodity Storage, Stagecoach Cartage and Distribution, Tuscon Port Authority, and Utah Commodity Storage. The Warehouses update their stocks daily and report those levels including movement of metal into and out of the Warehouse to the Registrar. An inventory report of all Warehouses is posted to the Exchange's website daily.

#### B. Warehouse Stocks

In performing our analysis of deliverable supply based on the total copper inventory held in the Warehouses, we first reviewed the Warehouse data to determine monthly averages from daily Warehouse reports in the last three years. The figures in Table 2 below represent monthly average inventory levels itemized by Registered and Eligible categories. In the evaluation of the copper inventory levels, there is no material represented by paper warrants and, therefore, all Registered and Eligible metal is considered deliverable supply.

Table 2: Monthly Average Stock Levels in Warehouses (COMEX Copper Futures contract equivalents)

Month	Average of Registered	Average of Eligible	Average of Total
Jan-12	6,641	501	7,142
Feb-12	6,630	558	7,188
Mar-12	6,665	562	7,227
Apr-12	5,847	663	6,510
May-12	4,366	930	5,296
Jun-12	3,990	518	4,508
Jul-12	3,700	278	3,978
Aug-12	3,710	250	3,959
Sep-12	3,461	558	4,019
Oct-12	4,014	206	4,221
Nov-12	4,570	209	4,779
Dec-12	5,153	256	5,409
Jan-13	5,654	142	5,796
Feb-13	5,890	92	5,982
Mar-13	5,959	88	6,047
Apr-13	5,486	1,035	6,520
May-13	4,270	2,434	6,704
Jun-13	3,837	2,235	6,072
Jul-13	2,766	2,684	5,450
Aug-13	2,391	1,736	4,128

Sep-13	2,180	482	2,662
Oct-13	1,946	358	2,304
Nov-13	1,443	359	1,802
Dec-13	768	605	1,374
Jan-14	706	621	1,327
Feb-14	1,032	340	1,373
Mar-14	888	246	1,134
Apr-14	1,290	216	1,507
May-14	1,083	296	1,379
Jun-14	1,276	165	1,440
Jul-14	1,665	128	1,793
Aug-14	1,963	83	2,046
Sep-14	1,946	594	2,540
Oct-14	1,905	747	2,652
Nov-14	1,627	670	2,297
Dec-14	1,598	597	2,194
Average	3,287	623	3,909

Source: CME Group

### B. Paper Warrant Conversion to Electronic Delivery System

Beginning in August 2008, NYMEX began a conversion from paper warrants as a title of ownership to copper stored in Warehouses to an electronic format. As part of this process, all holders of paper warrants were required to return the warrants to the Warehouse for conversion into electronic format in order to be deliverable against the Exchange's Copper Futures contract. While the paper warrants would still be recognized as a title of ownership of the copper, they would no longer be acceptable for delivery unless converted to electronic form. Any metal still held in the form of paper warrants is to be reported to the Exchange as Non-warranted Stocks on the daily stock report required by each Warehouse to the Exchange. In January 2015, the Exchange asked the Warehouses to provide its record of the current number of paper warrants that are still in existence and have not been converted to electronic format. It was determined that all paper warrants in existence prior to the conversion to electronic format that began in August 2008, have been returned to the appropriate Warehouses and converted to the proper format to be deliverable against the Exchange's Copper Futures contract. Table 2 above, therefore, represents total inventory deemed to be the basis for deliverable supply.

#### D. Updated Deliverable Supply Estimate

The average total inventory in Warehouses between January 2012 and December 2014 was 48,863 short tons equating to 3,909 Copper futures contract equivalents.

It is important to note that the basis for the deliverable supply analysis is conservative in its use of the inventory in Warehouses. Additional inventory in London Metal Exchange ("LME") approved warehouses in close proximity to Exchange Warehouses may also be considered a source of deliverable supply. The LME copper contract specifications are

identical to the Exchange's Copper futures contract with the exception of the contract size.

The locations in which both the Exchange and the LME have warehouses in close proximity are Baltimore and New Orleans. During the same time period as the analysis above, the average inventory level of copper stored in LME approved warehouses in Baltimore and New Orleans was 824 and 126,235 metric tons, respectively, When combined, equates to 11,205 COMEX Copper futures contract equivalents. As of December 31, 2014, the copper stocks in inventory in the LME warehouses in Baltimore is 0 MT and in New Orleans are 100,350 MT, which equates to 8,846 COMEX Copper futures contract equivalents. In COMEX approved warehouses, there is no copper inventory in Baltimore and there is 367 ST in New Orleans equating to 30 COMEX contract equivalents.

The COMEX approved warehouses in Baltimore and New Orleans have a capacity of 12,000 metric tons and 25,000 metric tons, respectively. This would represent a capacity to store approximately 1,059 and 2,205 COMEX Copper futures contract equivalents, respectively. Reducing the capacity for the COMEX approved warehouse in New Orleans by 30 contracts (COMEX inventory as of December 31, 2014), the remaining capacity equals 2,175 contract equivalents.

#### Additional information:

No queues in taking copper out of these warehouses currently exist according to LME's published report. The status of the queues for LME metals is available on the LME website and updated monthly. This information can be found at the following link:

#### https://www.lme.com/metals/reports/stocks/queue/

The inventory referenced above is comprised solely of copper brands that are acceptable for delivery against the COMEX Copper futures contract.

Based on the above analysis, the Exchange estimates the deliverable supply for the Copper Futures contract to be 3,909 Copper Futures contract equivalents based on the average total inventory supply in the Warehouses in the last three years and an additional 2,175 Copper futures contract equivalents representing copper readily available for delivery and currently stored in LME warehouses in close proximity to the COMEX approved warehouses. The current spot month position limit of 1,000 contracts represents 16.4% of the deliverable supply. Analysis of deliverable supply will be conducted by the Exchange's Research Department on an annual basis for global production and supply and the cash market for copper. The Exchange will review the deliverable supply based on Exchange inventory levels on a semi-annual basis.

# **CBOT Corn Deliverable Supply Analysis**

# Background:

Corn is the most widely produced feed grain in the United States, with most of the crop providing the main energy ingredient in livestock feed. Corn is also processed into a wide range of food and industrial products including fuel ethanol. USDA estimates the 2013/14 U.S. corn crop at 13.8 billion bushels, a 29 percent increase compared to 2012/13 due to mild weather and much higher yield. CBOT Corn futures are the global price discovery and risk management benchmark.

# Corn Futures Delivery Capacity (Updated Annually):

The following territories are defined for delivery in CBOT Corn futures:

- A. Chicago and Burns Harbor, Indiana Switching District The Chicago Switching District is the area geographically defined by Tariff ICC WTL 8020-Series and that portion of the Illinois Waterway at or above river mile 304 which includes the Calumet Sag Channel and the Chicago Sanitary & Ship Canal. The Burns Harbor, Indiana Switching District is the area geographically defined by the boundaries of Burns Waterway Harbor at Burns Harbor, Indiana which is owned and operated by the Indiana Port Commission.
- B. Lockport-Seneca Shipping District The Lockport-Seneca Shipping District is the portion of the Illinois Waterway below river mile 304 at the junction of the Calumet Sag Channel and the Chicago Sanitary & Ship Canal and above river mile 244.6 at the Marseilles Lock and Dam.
- C. Ottawa-Chillicothe Shipping District The Ottawa-Chillicothe Shipping District is the portion of the Illinois Waterway below river mile 244.6 at the Marseilles Lock and Dam and at or above river mile 170 between Chillicothe and Peoria, IL.
- D. Peoria Pekin Shipping District The Peoria-Pekin Shipping District is the portion of the Illinois Waterway below river mile 170 between Chillicothe and Peoria, IL and at or above river mile 151 at Pekin, IL.

Facilities approved for delivery on Corn futures are limited in the number of shipping certificates that they may issue to an amount not to exceed 20 times their total daily rate of loading barges, or in the case of the Chicago and Burns Harbor delivery territory, their registered storage capacity. As of January 2015, firms regular for delivery on CBOT Corn futures had approved capacity to issue 11,256 shipping certificates or 56.28 million bushels of corn.

Below are the facilities regular for delivery on Corn futures as of January 2015 along with the maximum number of shipping certificates they may issue, with each shipping certificate equivalent to 5,000 bushels:

Firm	Location	Maximum
	Location	Certificates
		Deliverable
Cargill, Inc.	Burns	1,094
	Harbor, IN	
Chicago &	Chicago, IL	2,462
Illinois River		
Marketing,		
LLC		
Cargill, Inc.	Morris, IL	440
Elburn	Morris, II	220
Cooperative		
Co.	Mannia E II	220
ADM Grain	Morris-E, IL	220
Company	Caraca	440
Cargill, Inc.	Seneca, IL	440
ADM Grain	Ottawa-N, IL	440
Company	Ottowo II	440
Cargill, Inc.	Ottawa, IL	
ADM Grain	Ottawa-S, IL	220
Company	Ottowo II	220
Maplehurst Farms, Inc.	Ottawa, IL	220
Zen-Noh	Utica, IL	220
Grain	Otica, IL	220
Corporation		
Consolidated	Utica, IL	220
Grain and	Otica, 12	220
Barge Co.		
ADM Grain	La Salle, IL	220
Company		
Zen-Noh	Peru, IL	220
Grain	,	
Corporation		
Consolidated	Peru, IL	220
Grain and		
Barge Co.		
ADM Grain	Spring	440
Company	Valley, IL	
Cargill, Inc.	Spring	440
	Valley, IL	
ADM Grain	Hennepin, IL	440
Company		
Cargill, Inc.	Hennepin, IL	440
Zen-Noh	Hennepin, IL	220
Grain Corp.		

Consolidated	Hennepin, IL	220
Grain and		
Barge Co.		
ADM Grain	Henry, IL	220
Company		
ADM Grain	Lacon, IL	220
Company		
Cargill, Inc.	Lacon, IL	440
ADM Grain	Creve Coeur,	440
Company	IL	
Bunge North	Ottawa, IL	220
America		
ADM Grain	Ottawa, IL	220
Company		

# Corn Futures Deliverable Supply Procedures and Estimate (Updated Annually):

Each Tuesday the Registrar's Office publishes corn meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities. The USDA-AMS publishes a weekly Grain Transportation Report (GTR) that covers developments affecting the transport of grain, both in the domestic and international marketplace (<a href="http://www.ams.usda.gov/AMSv1.0/gtr">http://www.ams.usda.gov/AMSv1.0/gtr</a>). This weekly publication reports on the latest volume and price data for barges, railroads, trucks, and ocean vessels involved in the transport of grain. Included in this report is the amount of corn shipped through Lock 8 on the Illinois River and through the Illinois River delivery territory for Corn futures.

Deliverable supply is estimated as the stocks of grain in regular facilities on the Friday prior to First Notice Day plus the amount to corn that passes through Lock 8 on the Illinois River during the four weeks prior to First Notice Day. This is likely a very conservative estimate of deliverable supply because it does not count the significant amount of corn that is likely near the delivery facilities and could easily be placed into delivery position very quickly.

<sup>1</sup> http://marinas.com/view/lock/155 Illinois River Peoria Lock IL United States

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Futures Contract Expiration	Corn Movement through Lock 8 on the IL River during the 4 Weeks Prior to FND (1M Bushels)	Stocks of Corn in Regular Facilities on the Friday prior to FND (1M Bushels)	Total Stocks (1M Bushels)
Mar 2014	4.50	6.80	11.30
Mar 2013	6.56	2.19	8.75
Mar 2012	24.82	3.11	27.93
MAR AVG	11.96	4.03	15.99
May 2014	21.84	5.42	27.26
May 2013	3.49	1.71	5.20
May 2012	13.89	2.25	16.14
MAY AVG	13.07	3.13	16.20
Jul 2014	26.98	3.90	30.88
Jul 2013	9.37	1.35	10.72
Jul 2012	9.54	1.55	11.09
JUL AVG	15.30	2.27	17.57
Sep 2014	19.85	1.54	21.39
Sep 2013	1.61	0.56	2.17
Sep 2012	5.61	0.48	6.09
SEP AVG	9.02	0.86	9.88
Dec 2014	10.15	5.41	15.56
Dec 2013	13.41	4.80	18.21
Dec 2012	4.29	2.12	6.41
DEC AVG	9.28	4.11	13.39
AVG ALL DELV MONTHS	11.73	2.88	14.61

As the table above shows, estimated deliverable supply for all delivery months over the past three calendar years has been 14.61 million bushels or 2,922 contract equivalents. The delivery month with the largest estimated deliverable supply is the July expiration with average delivery stocks of 17.57 million bushels (3,514 contract equivalents) and the delivery month with the smallest estimated deliverable supply is the September expiration with average delivery stocks of 9.88 million bushels (1,976 contract equivalents).

There is no readily available data on corn under long-term contracts or agreements that could not be delivered on futures and should not be counted in deliverable supply estimates. To get a sense of the extent corn is under long-term agreements and not deliverable, the Exchange reached out to the corn regular delivery firms ADM, Cargill, Nidera, and CHS. Feedback from these firms indicates generally zero

(0) percent of corn in their facilities is under long-term agreement and could not be delivered against Corn futures. One firm indicated generally zero percent under long-term agreement but at the very most five percent during some limited time frames. Given this feedback and the conservative nature of the estimate, the Exchange does not believe corn stocks under long-term agreements significantly affect deliverable supply.

Twenty-five percent of the average estimated deliverable supply (2,922 contracts) is 730 contracts and 25 percent of the smallest estimated monthly deliverable supply (1,976 contracts) is 494 contracts. The spot-month position limit in Corn futures is 600 contracts. Although 25 percent of the September estimated deliverable supply is below the spot-month position limit, that estimate is a very conservative estimate that does not take into account stocks of corn in non-regular facilities that could easily be brought into the delivery system. Thus, the Exchange does not believe a reduction in the September spot-month position limit is warranted.

#### CASH MARKET OVERVIEW

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

In estimating deliverable supply for the WTI contract and relying on 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.<sup>1</sup>

Accordingly, 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:

- (1) Crude Oil Production;
- (2) Crude Oil Flows to the delivery area; and
- (3) 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.

<sup>&</sup>lt;sup>1</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

#### 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.<sup>2</sup>

#### 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

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<sup>&</sup>lt;sup>2</sup> 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.

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).

#### 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.<sup>3</sup> 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 WTI Contract are 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.

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<sup>&</sup>lt;sup>3</sup> 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.

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.<sup>4</sup>

#### 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.<sup>5</sup> The responses we received were consistent and they can be summarized as follows:

• 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.

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<sup>&</sup>lt;sup>4</sup> 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).

<sup>&</sup>lt;sup>5</sup> 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 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.

- 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 EIA<sup>6</sup>. 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. 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 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

<sup>&</sup>lt;sup>6</sup> http://www.eia.gov/forecasts/steo/special/pdf/2013\_sp\_02.pdf

<sup>&</sup>lt;sup>7</sup> 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.

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. 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. 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

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<sup>&</sup>lt;sup>8</sup> <a href="http://www.eia.gov/petroleum/storagecapacity/table2.pdf">http://www.eia.gov/petroleum/storagecapacity/table2.pdf</a> 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.

<sup>&</sup>lt;sup>9</sup> 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.

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 barrel (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 *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 current spot month position limit for the WTI Crude Oil Futures contract of 3,000 contracts is equivalent to 6.9% of the total monthly deliverable supply.

# **APPENDIX**

Table 1
U.S. Crude Oil Production<sup>10</sup>
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

<sup>&</sup>lt;sup>10</sup> The production listed here includes North Dakota, Montana, Wyoming, Colorado, New Mexico, Onshore Texas, Oklahoma, and Kansas. The web link is: <a href="http://www.eia.gov/dnav/pet/pet\_crd\_crpdn\_adc\_mbblpd\_a.htm">http://www.eia.gov/dnav/pet/pet\_crd\_crpdn\_adc\_mbblpd\_a.htm</a>

Table 2 Crude Oil Flows to Cushing (Barrels/Day)<sup>11</sup>

<b>Incoming Pipelines</b>	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	SemGroup	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 KM	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	50,000	Sunoco Logistics	25,000 – 30,000 (100% WTI)
Glass Mountain Pipeline	140,000	SemGroup/Gavilo	n 40,000 – 50,000 (100% WTI)

**TOTAL In-Bound Capacity** 3.0 Million Capacity 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

<sup>11</sup> Sources: Plains All American Pipeline Company, JSK Consulting, and other industry sources.

Table 3 Cushing Storage<sup>12</sup>

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

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 $<sup>^{12} \ \</sup>underline{\text{http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET\&s=W\_EPC0\_SAX\_YCUOK\_MBBL\&f=W}$ 

#### **Gold Futures**

### **Analysis of Deliverable Supply**

#### I. Key Components of Supply

#### A. Production

Gold production and recycling represent additional sources of supply each year. World mine production was estimated at 86.6 million ounces in 2013. Adding secondary production that includes recycling, total 2013 gold supply was more than 124.4 million ounces. Consequently, it can be readily observed that the COMEX spot month position limit for Gold is comparatively small compared to the overall global supply of Gold.

#### **B.** Depository Stocks

By the rules of the Exchange, each Depository is required to furnish to the Exchange the level of Exchange grade inventory on a daily basis. The level of Exchange gold inventories made publically available daily on the **Exchange** (http://www.cmegroup.com/market-data/reports/registrar-reports.html). Further the rules of the Exchange require an independent inventory audit to be performed annually to provide a comprehensive reconciliation of stocks stored in Depositories with records maintained by both the Exchange and the Depository<sup>3</sup>. Registered stock is that material which meets the specifications of the Gold Futures contract for which a warrant has been issued. In addition to the registered stocks, there is an eligible category of stocks which is that material that meets the specifications of the Gold Futures contract, but for which no warrant has been issued. The eligible stocks are readily available to be placed on warrant and readily available to deliver against Gold Futures contracts and, hence, are considered to be a component of deliverable supply.

#### II. Key Indicators of Supply

#### A. Cash Market Gold Trading

Gold probably has the longest history of trading of any commodity. An enormous cash and forward market has developed Over-the-Counter (OTC) in various global financial centers, but is centered in London. Stocks held in Depositories actually represent a small

<sup>&</sup>lt;sup>1</sup> CPM Group Gold Yearbook 2014

<sup>&</sup>lt;sup>2</sup> CPM Group Gold Yearbook 2014

<sup>&</sup>lt;sup>3</sup> The Exchange rules require an annual inventory audit in compliance with Exchange procedures to be performed at the Depository by an independent auditor and to prepare and submit to the Exchange an audit report certifying the records of the Depository accurately reflect the Exchange's records.

total of the cash market for Gold. Predominate cash market is the London Bullion Market Association (LBMA) which was formed in 1987. As market activity in gold grew in the 1980's, an influx of global market participants were drawn to the London market creating the predominant center of OTC gold trading. The concept of "loco London" refers to the London bullion market as the global center for international gold trading. Members of the London bullion market trade with each other and with their clients on a principal-toprincipal basis unlike Exchange traded futures. Some OTC gold trading is cleared through the London bullion market clearing system. There are six member firms that offer clearing services to the LBMA. These firms form a company called the London Precious Metals Clearing Limited (LPMCL) and its members include Barclays Bank PLC, the Bank of Nova Scotia-ScotiaMocatta, Deutsche Bank AG - London Branch, HSBC Bank USA National Association - London Branch, JP Morgan Chase Bank, and UBS AG. The unit of delivery in the loco London gold market is a bar of 995 fineness with a weight of close to 400 troy ounces and of London Good Delivery<sup>4</sup>. The LBMA is not an exchange and, therefore, is not required to report turnover volume. The only statistics reported on a regular basis are through the surveys of the six clearing members of the LPMCL. In Table 1 below, the clearing statistics represent ounces transferred during the past five years.

Table 1: LBMA Clearing Statistics<sup>5</sup>

Year	LBMA Clearing Statistics in Ounces (million ounces)
2009	5,166
2010	4,727
2011	5,204
2012	4,398
2013	5,542
2014	4,392

**Source: London Bullion Market Association** 

In August 2011, the LBMA conducted a survey of its members' trading volume in the loco London market for the first quarter of 2011. As a result of this study, it was shown that there is a ten to one ratio between the turnover figures and the regularly reported clearing statistics for gold trading. For the purposes of this study, all members of the LBMA were requested to report turnover volume that included spot and forward transactions between members and with other counterparties as well as transactions covering options and

http://www.lbma.org.uk/pages/index.cfm?page\_id=50&title=clearing\_-\_statistical\_table

<sup>4</sup> http://www.lbma.org.uk/pages/index.cfm?page\_id=29&title=gold\_list

<sup>&</sup>lt;sup>5</sup> London Bullion Market Association (LBMA)

bullion related commodity swaps. The average daily trading volume of gold during this period in the London market was 173,713,000 ounces.<sup>6</sup>

Table 2: Gold Market Trading (millions of ounces)<sup>7</sup>

Year	2006	2007	2008	2009	2010	2011	2012	2013
Physical Market <sup>8</sup>	112.6	121.9	109.6	114.8	117.2	119.7	119.0	123.5
Exchange Traded Futures and Options <sup>9</sup>	4,000.4	4,617.7	6,162.9	5,431.4	6,473.5	7,664.2	6,698.1	7,228.1
LBMA Cleared Volume	5,413.9	5,130.3	5,605.5	5,166.3	4,727.7	5,204.0	4,938.4	5,541.9
Total	9,526.9	9,869.9	11,878.0	10,712.5	11,318.4	12,987.9	11,755.5	12,893.4

**Source: CPM Group** 

<sup>6</sup> The Alchemist, August 2011

<sup>&</sup>lt;sup>7</sup> CPM Group Gold Yearbook 2014

<sup>&</sup>lt;sup>8</sup> Physical Market – includes total annual mine supply, net exports from transitional economies (Vietnam, North Korea, Russia, Uzbekistan, Kazakhstan, Armenia, Kyrgyzstan, Georgia, Tajikistan, and Cuba), secondary supply (all scrap refined from old jewelry and spent industrial products), and official sector gold sales (included as supply only if annual official transactions indicate aggregate sales).

<sup>&</sup>lt;sup>9</sup> Exchange Traded Futures and Options – includes gold futures and options (if applicable) volume traded on the following Exchanges: CME Group, Tokyo Commodity Exchange, NYSE Euronext, National Commodity & Derivatives Exchange in India, Dubai Gold and Commodity Exchange, Multi Commodity Exchange, Shanghai Futures Exchange, Taiwan Futures Exchange, Russian Trading System, Thailand Futures Exchange, Hong Kong Mercantile Exchange, Hong Kong Exchanges and Clearing Limited, South African Futures Exchange, Indonesia Commodity & Derivatives Exchange, Johannesburg Stock Exchange, The Stock Exchange of Thailand, Eurex, Rosario Futures Exchange, Turkish Derivatives Exchange, Sibiu Financial and Commodity Exchange, Korea Exchange, Singapore Mercantile Exchange, and Mauritius Global Board and Trade.

#### **B.** Term Contracts

The Bank for International Settlements (BIS) surveys banks on a semi-annual basis, the latest of which was completed as of June 2014. The notional amount outstanding of overthe-counter markets for Gold as of the end of the first half of 2014 was estimated to be \$318 billion, as shown in Table 3.

Table 3: Global OTC Gold Market<sup>10</sup>

Period	Notional Amounts Outstanding (in billions)	
H1 2010		417
H2 2010		397
H1 2011		468
H2 2011		521
H1 2012		523
H2 2012		486
H1 2013		461
H2 2013		341
H1 2014		318

**Source: Bank for International Settlements** 

This would be equivalent to about 2.65 million COMEX Gold Futures contract equivalents. During the four year period prior to 2014, Gold became a prominent trading vehicle due to international political and financial crises. These contracts range from physically delivered forward contracts, to financial swaps and physical and financial options.

Term sales often require physical settlement; however, they do not result in reductions to the deliverable supply. For the most part, Gold is not consumable as industrial use in jewelry, electronics, and dental/medical sectors was estimated at 92.0 million ounces in 2013<sup>11</sup> (about 920,000 COMEX Gold Futures contract equivalents). This amounts to only about 75% of incremental supply of 123.4 million ounces in 2013<sup>12</sup>. The difference results in storage for Central Bank use and investment demand.

<sup>&</sup>lt;sup>10</sup> Bank for International Settlements (http://www.bis.org/statistics/dt19.pdf)

<sup>&</sup>lt;sup>11</sup> CPM Yearbook 2014, p. 161

<sup>&</sup>lt;sup>12</sup> CPM Yearbook 2014, p. 105

## III. The Deliverable Supply Estimate Underlying the Existing Position Limit and Market Changes

#### A. Past Position Limit Approval and Deliverable Supply Estimate

The spot month position limit for Gold is currently set at 3,000 contracts and has been in effect since 1983. The average inventory levels of Gold stored in Exchange Approved Depositories during 1983 was 25,918 contract equivalents. The position limit of 3,000 contracts represented 11% of the deliverable supply.

#### B. Market Changes since 2001

There have been many changes in the gold market since the last estimate of deliverable supply in 1983. More recently, just since 2001, the financial and money markets have undergone transformative changes. The world economy has become increasingly focused on hedging financial calamity as well as depreciating currencies. This has led to a surge in Gold mining, recycling, and Central Bank purchases and sales attempting to provide stability. Consequently, deliverable supply has been materially impacted and, in general, has increased. The combination of the significant gap in time since the last estimate as well as the significant market changes which have occurred since 2001 call for updating the deliverable supply analysis.

#### IV. Updated Deliverable Supply Estimate and Supporting Data

The Exchange believes that reliable and conservative estimates for the deliverable supply come from existing inventories in its Exchange Approved Depositories ("Depository") for Exchange delivery.

In estimating deliverable supply for Gold Futures, we relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical depository stocks that could reasonably be considered to be reliably available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

In general, the term "deliverable supply" 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.<sup>13</sup>

Accordingly, there are two categories of stocks considered in updating the existing deliverable supply estimates underlying the Gold Futures contract:

- (1) Registered Stocks
- (2) Eligible Stocks

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<sup>&</sup>lt;sup>13</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

#### A. Approved Depositories

To determine inventory estimates, staff reviewed information provided by the Depositories. For Gold, the Depositories include Brinks, HSBC Bank, JP Morgan, Manfra, Tordella & Brookes, Inc., and Scotia Mocatta. The Depositories update their stocks daily and report those levels including movement of metal into and out of the Depository to the Registrar. An inventory report of all Depositories is posted to the Exchange's website daily.

#### **B. Depository Stocks**

In performing our analysis of deliverable supply based on the total gold inventory held in the Depositories, we first reviewed the Depository data to determine monthly averages from daily Depository reports in the last three years. The figures in Table 4 below represent monthly average inventory levels itemized by Registered and Eligible categories. In the evaluation of the gold inventory levels, the material represented by the number of paper warrants still outstanding as of January 2015 by the Depositories was 288 COMEX Gold Futures contract equivalents. Since this material is not deliverable in its current form and has remained in its current form for the past three years, it has been excluded from the Eligible and Total levels in Table 4 and, subsequently, from the deliverable supply.

Table 4: Monthly Average Stock Levels in Depositories (COMEX Gold Futures contract equivalents)

Month	Average of	Average of	Average of
Month	Registered	Eligible	Total
Jan-12	24,599	90,214	114,812
Feb-12	24,673	89,705	114,377
Mar-12	24,740	89,347	114,088
Apr-12	24,720	85,913	110,633
May-12	24,441	85,688	110,128
Jun-12	27,964	82,257	110,221
Jul-12	26,013	82,074	108,087
Aug-12	28,257	80,622	108,880
Sep-12	25,406	84,207	109,613
Oct-12	25,961	85,823	111,784
Nov-12	25,449	87,346	112,795
Dec-12	25,798	85,941	111,739
Jan-13	23,579	86,173	109,752
Feb-13	27,734	79,478	107,212

Mar-13	25,969	70,951	96,920
Apr-13	25,938	62,395	88,333
May-13	17,348	62,669	80,017
Jun-13	14,274	63,018	77,292
Jul-13	10,209	60,845	71,054
Aug-13	8,019	62,016	70,035
Sep-13	6,779	63,043	69,822
Oct-13	7,225	62,953	70,178
Nov-13	6,112	65,710	71,822
Dec-13	5,859	70,060	75,919
Jan-14	4,171	71,993	76,164
Feb-14	6,114	65,046	71,160
Mar-14	6,490	65,866	72,356
Apr-14	8,038	70,564	78,610
May-14	8,063	72,246	80,309
Jun-14	9,208	73,184	82,392
Jul-14	9,267	74,930	84,196
Aug-14	10,859	84,394	95,252
Sep-14	10,126	85,500	95,626
Oct-14	9,277	79,186	88,463
Nov-14	8,702	72,220	80,910
Dec-14	7,698	71,100	78,798
Average	16,252	75,685	91,937

Source: CME Group

#### C . Paper Warrant Conversion to Electronic Delivery System

Beginning in August 2008, NYMEX began a conversion from paper warrants as a title of ownership to gold stored in Depositories to an electronic format. As part of this process, all holders of paper warrants were required to return the warrants to the Depository for conversion into electronic format in order to be deliverable against the Exchange's Gold Futures contract. While the paper warrants would still be recognized as a title of ownership of the gold, they would no longer be acceptable for delivery unless converted to electronic form. Any metal still held in the form of paper warrants is to be reported to the Exchange as Eligible Stocks on the daily stock report required by each Depository to the Exchange. In January 2015, the Exchange asked the Depositories to provide its record of the current number of paper warrants that are still in existence and have not been converted to electronic format. Table 5 below shows a breakdown by each Exchange Approved Depository as of the end of 2014 of its outstanding paper warrants and total electronic warrants. As indicated, the paper warrants represent 3.61% of total warrants held by the Depositories. As compared to the total inventory level that includes both Registered and Eligible stocks, the paper warrants represent 0.37% of the gold stock level.

Table 5: Paper Warrants and Electronic Warrants in Exchange Approved Depositories

Depository	Number of Paper Warrants	Number of Electronic Warrants	Total Warrants	Paper Warrants as a % of Total Warrants	Paper Warrants as a % of Total Inventory
<u>Scotia</u>	134	3,009	3,143	4.27%	0.49%
Manfra, Tordella & Brookes	0	105	105	0.00%	0.00%
<u>Brinks</u>	28	1,955	1,983	1.42%	0.95%
<u>HSBC</u>	126	1,074	1,200	10.50%	0.31%
JP Morgan Chase	0	1,565	1,565	0.00%	0.00%
Total	288	7,708	7,996	3.61%	0.37%

Gold backing outstanding paper warrants meets all contract specifications and thus is reported in the Eligible Stocks category. That being said and with an eye towards being conservative, we have determined that these warrants may not necessarily be intended for Exchange delivery and that they are not deliverable in their current form. The paper warrants, representing only 0.37% of the total gold inventory level, have been excluded from the deliverable supply analysis in order to best represent the material that the Exchange considers readily available for delivery against the Exchange's Gold futures contract.

#### D. Updated Deliverable Supply Estimate

Based on the above analysis the Exchange estimates the deliverable supply for the Gold Futures contract to be 91,937 Gold Futures contract equivalents based on the average total inventory supply in the Depositories in the last three years. Using the most recent three year average, the current spot position limit of 3,000 contracts represents 3.26% of the deliverable supply. Analysis of deliverable supply will be conducted by the Exchange's Research Department on an annual basis for global production and supply and the cash market for gold. The Exchange will review the deliverable supply based on Exchange inventory levels on a semi-annual basis.

### KC HRW Wheat Deliverable Supply Analysis

#### Background:

All wheat 2013/14 U.S. production was 2.14 billion bushels with hard red winter (HRW) wheat, the deliverable class on KC HRW Wheat futures, representing 747 million bushels or just over 35 percent of total U.S. wheat production. HRW is high-protein wheat that is primarily milled into flour used in bread production. The USDA projected 2014/15 U.S. HRW wheat crop of 738 million bushels, about the same as the 2013/14 HRW crop.

### KC HRW Wheat Futures Delivery Capacity (Updated Annually):

The following switching districts are defined for delivery in KC HRW Wheat futures:

- 1.) Kansas City, Missouri/Kansas,
- 2.) Hutchinson, Kansas,
- 3.) Salina/Abilene, Kansas, or
- 4.) Wichita, Kansas.

Below are the facilities regular for delivery on Wheat futures as of March, 2015 along with their storage capacity in bushels and maximum number of warehouse receipts they may issue, with each warehouse receipt equivalent to 5,000 bushels:

#### **KANSAS CITY**

ADM Grain Company Milwaukee (KCS) 1,304,000 (260 receipts)

ADM Grain Company Wolcott (UP) 2,526,000 (505 receipts)

Bartlett Grain Company, LP River Rail (UP) 10,291,000 (2,058 receipts)

Bartlett Grain Company, LP KCT #1 (BNSF) 4,307,000 (861 receipts)

Bartlett Grain Company, LP Fairfax (UP) 10,039,000 (2,007 receipts)

Cargill, Inc. Chouteau (BNSF) 927,000 (185 receipts)

Cargill, Inc. Katy (UP) 4,332,000 (8664 receipts)

Storage Capacity - Kansas City 33,726,000 (6,7420 receipts)

#### **HUTCHINSON**

ADM Grain Company Elevator A (UP) 4,071,000 (814 receipts)

ADM Grain Company Elevator B (BNSF & UP) 1,869,000 (373 receipts)

ADM Grain Company Elevator I (BNSF) 6,836,000 (1,367 receipts)

ADM Grain Company Elevator J (BNSF & UP) 18,307,000 (3,661 receipts)

Cargill, Inc. Hutchinson (BNSF & UP) 4,394,000 (878 receipts)

Cargill, Inc. Hutchinson W (UP) 4,448,000 (889 receipts)

Storage Capacity - Hutchinson 39,925,000 (7,982 receipts)

#### SALINA/ABILENE

ADM Grain Company Salina A (UP) 4,197,000 (839 receipts)

Cargill, Inc. Salina (K&O) 31,669,000 (6,333 receipts)

Gavilon Grain, LLC Abilene (BNSF & UP) 1,392,000 (278 receipts)

The Scoular Company Salina (UP) 11,077,000 (2,215 receipts)

#### Storage Capacity - Salina/Abilene 48,335,000 (9,665 receipts)

#### WICHITA

Bartlett Grain Company, LP Wichita (BNSF) 12,080,000 (2,416 receipts) Gavilon Grain, LLC Wichita (K&O) 30,542,000 (6,108 receipts) Horizon Milling, LLC Wichita (BNSF & UP) 5,682,000 (1,136 receipts) Storage Capacity - Wichita 48,304,000 (9,660 receipts)

As of March 2015, firms regular for delivery on KC HRW Wheat futures had regular storage capacity of over 170 million bushels and the ability to issue up to 34,0497 warehouse receipts.

# KC HRW Wheat Futures Deliverable Supply Procedures and Estimates (Updated Annually):

Each Tuesday the Exchange publishes wheat meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities. Deliverable supply is estimated as the stocks of grain in regular facilities on the Friday prior to First Notice Day. Although this measure does not distinguish stocks under long-term agreements, it is likely a very conservative estimate of deliverable supply because it does not count the significant amount of wheat that is likely near the delivery facilities and could easily be placed into delivery position very quickly.

Mar-14 Mar-13 Mar-12 MAR AVG  May-14 May-13 May-12 MAY AVG  Jul-14 Jul-13 Jul-12	Stocks of Wheat in Regular Facilities on the Friday prior to FND (1M Bushels)
Mar-14	52.06
Mar-13	62.38
Mar-12	60.29
MAR AVG	58.24
May-14	39.07
May-13	51.75
May-12	49.93
MAY AVG	46.92
Jul-14	38.87
Jul-13	65.73
Jul-12	85.03
JUL AVG	63.21

Sep-14	54.11
Sep-13	88.79
Sep-12	100.32
SEP AVG	81.07
Dec-14	55.82
Dec-13	75.94
Dec-12	95.75
DEC AVG	75.84
AVG ALL DELV MONTHS	65.06

As the table above shows, estimated deliverable supply for all delivery months over the past three calendar years has been 65.06 million bushels or 13,012 contract equivalents. The delivery month with the largest estimated deliverable supply is the September expiration with average delivery stocks of 81.07 million bushels (16,214 contract equivalents) and the delivery month with the smallest estimated deliverable supply is the May expiration with average delivery stocks of 46.92 million bushels (9,384 contract equivalents).

Twenty-five percent of the average estimated deliverable supply (13,012 contracts) is 3,253 contracts and 25 percent of the smallest estimated monthly deliverable supply (9,384 contracts) is 2,346 contracts. The spot-month position limit in KC HRW Wheat futures is 600 contracts.

#### Deliverable Supply Analysis for Henry Hub Natural Gas Futures "NG" Contract

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

In estimating Henry Hub deliverable supply we relied on Commission long-standing precedent, which provides that the key component in estimating 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:

In general, the term "deliverable supply" 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.<sup>1</sup>

Accordingly, there are three factors NYMEX considered in updating the existing Henry Hub deliverable supply estimates:

- (1) Natural gas production that can flow to the delivery location;
- (2) Delivery capacity of the delivery mechanism; and
- (3) Storage information.

While we considered all of the above factors, the exchange also evaluates the geographic extent of the market. This is important because, in determining supplies readily accessible to the delivery point, the geographic extent of the market must be taken into account. It defines both the sources from which supplies can be readily provided as well as the destinations into which it can re-delivered. The determination of deliverable supply with respect to the Henry Hub has historically been subject to being defined by the deliverable capacity of the delivery mechanism. Accordingly, production and storage are constrained by the deliverable capacity which has historically served as a binding factor that defines deliverable supply. As detailed below, due to the fact that production levels and stored product with ready access exceed delivery capacity, this continues to be the case.

#### A. Geographic Extent of the Market

The Henry Hub delivery mechanism is part of a broader geographic market that encompasses US Gulf Coast (USGC) area production, sales and re-sales. This would include production from Texas, Louisiana, Mississippi and Alabama, USGC area storage and USGC area pipelines and supporting facilities.

#### B. Natural Gas Production

To determine production estimates, NYMEX reviewed information gathered from two sources: Bentek, a wholly owned subsidiary of Platts and the U.S. Department of Energy ("DOE") Energy Information Administration ("EIA").

Bentek is an industry leader in the provision of data aggregation and collation from the Interstate Natural Gas Pipelines' electronic bulletin boards. Interstate natural gas pipelines are subject to Federal Energy Regulatory Commission ("FERC") oversight and jurisdiction. As part of its regulatory oversight, FERC requires interstate

<sup>&</sup>lt;sup>1</sup> 76 Fed. Reg. 71633 (November 18, 2011)

<sup>&</sup>lt;sup>2</sup> Bentek collects details on the flow of interstate pipeline natural gas from the production source, commonly known as the wellhead, to the local distribution company's (including municipal operated distributors) delivery point, commonly known as its city-gate, beyond which point the pipeline ceases to be a federally regulated interstate pipeline.

pipelines to operate publicly accessible electronic bulletin boards which provide information on scheduling, available capacity and natural gas flows on a near real-time basis. Among other things, Bentek collects and disseminates collated data from these electronic bulletin boards daily. Given this, the Bentek data presented can be more current than the EIA data, which are typically subject to a minimum two-month delay in publication.

EIA data are a definitive source for production information and EIA does provide marketed production data for Federal U.S. Gulf Coast offshore production as well as onshore production for individual states such as Louisiana or Texas; these data include, however, some onshore production that would not be able to readily access the delivery point.

Bentek provides greater geographic detail than the EIA data by providing both U.S. Gulf Coast offshore and onshore production and we believe that the Bentek data provides only onshore or offshore natural gas production that has ready access to the delivery point. In any event, as is discussed below, NYMEX believes that the Bentek data underestimates the total production with ready access to the Henry Hub but, nonetheless, represents a reasonable basis for production estimates.

#### C. Henry Hub Delivery Capacity

In addition to production that can readily access the delivery point, the Exchange takes into account the delivery capacity of the delivery facility, the Henry Hub. Generally, deliverable supply is mathematically bounded by production and stored product (with ready access) and deliverable capacity. Excepting for the coincidence where these equal each other, then either one or the other is the binding factor in determining deliverable supply. In terms of the Henry Hub, deliverable capacity is the binding factor and this will be detailed further below. The source of the Henry Hub pipeline receipt and delivery capacity is the Sabine Pipe Line Co. website. As part of FERC regulation, interstate pipelines are required to provide daily capacity information that includes receipt and delivery design, scheduled and available for all certificated interconnections. <sup>3</sup>

#### D. State of Louisiana and Producing Area Natural Gas Storage

Storage data are provided on a weekly basis by EIA and are approximately four business days old upon release. These data are provided by general region—East, West and Producing. Producing includes the U.S. Gulf Coast region which includes the delivery location for the NG contract. The EIA also collates data at the individual state level but provides these data with a time lag of approximately six months. At these frequencies of release, there are no official storage data with greater geographic detail than either the Producing region or state level. We did not try to estimate which portion of stored natural gas was readily accessible to the delivery location.

#### II. The Henry Hub Physical Delivery Mechanism

Terminating obligations in the NYMEX Henry Hub Natural Gas futures contract are fulfilled by delivering pipeline quality natural gas to the Henry Hub pipeline interconnection designated by the buyer. The Henry Hub consists of interconnections with 12 interstate and intrastate pipelines and related infrastructure. The Plant is owned and operated by EnLink Midstream. Of the 12 pipelines, 11 have interconnections to receive natural gas at the Henry Hub and 10 to deliver processed "dry" natural gas from the Henry Hub. The deliveries pipelines source their natural gas from the U.S. Gulf Coast region, both onshore and offshore, which extends from Texas to Alabama. Henry Hub has two compressor stations that enable natural gas to move from lower pressure pipeline Henry Hub receipt interconnections to higher pressure downstream Henry Hub pipelines.

Henry Hub also offers an intra-Hub tracking and transfer service, a form of in-system title transfer and documentation, to accommodate trading and delivery needs of its customers. This service, which is offered by Sabine Hub Services Company, a non-federal jurisdictional subsidiary of EnLink Midstream, enhances the natural gas trading environment for producers, marketers, and end users with respect to meeting their physical and

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<sup>&</sup>lt;sup>3</sup> Information available at http://www.sabinepipeline.com//.

financial requirements. In addition, the number of interruptible transportation customers of Henry Hub has grown to approximately 160 market participants.

#### III. Physical Market Trading Structure and Term Contracts

#### A. Physical Market Trading Structure

Typically, there is a chronology of sales and purchases of natural gas in the U.S. market that starts with a sale from producer and finishes with a purchase by an end-user to consume the natural gas, typically far downstream of the U.S. Gulf Coast. First-sales are from producers to marketers or other middleman-type firms with delivery at the production point or where natural gas first enters the pipeline system (or liquids processing facility attached to the system). The first-sale buyer transports it from the point of sale downstream. Typically, the first-sale buyer resells the natural gas to someone other than the end-user. Sales to end-users, who do not further resell the natural gas but ultimately consume it, are final-sales.

As implied, sometimes end users also resell natural gas, frequently during the same commercial cycle in which they purchased it. Other buyers of resold natural gas also either resell it or store it and resell it later. A common commercial practice is the first-sale and multiple subsequent re-sales occurring in the same delivery cycle; this line of re-sales usually includes a final sale, but not always, since a significant portion of natural gas is stored.

Henry Hub is essentially an active reseller market where buyers either: resell the natural gas to someone else at Henry Hub; transport it downstream for delivery and re-sale to someone else; transport it downstream to consume it; or transport it downstream to store it. Most of the sales and deliveries in the Henry Hub are comprised of volumes for re-sale, storage or final-sales. In fact, the commercial physical market in Henry Hub sales is estimated to be 6-10 times the multiple of physical natural gas that flows through Henry Hub, which is a direct indication that most sales are for re-sale. *Gas Daily* and *Inside F.E.R.C.* publish transaction information for delivery at Henry Hub but do not capture all transactions that occur at the Henry Hub.

#### B. Term Contracts

The Exchange contacted and surveyed natural gas market participants regarding common commercial practices, including the use of term contracts, in the North American natural gas market.<sup>4</sup> The responses we received were consistent and can be summarized as follows:

- Most first-sales of production are sold term, as indicated above, typically for delivery on the producing property or nearest entry to the pipeline system, including liquids processing plants, and typically to middleman-firms. These middleman-firms typically resell the natural gas to other middleman-firms or to market participants performing that function or to end-users. Gulf Coast market participants estimated re-sales ranging from 50% to over 90%—skewing towards the higher end. Some market participants indicated they did not know of exceptions but did not estimate 100% of first sales to be ultimately resold.
- No restrictions typically apply to the resale of natural gas bought first-sale on a term basis from producers. In fact, restrictions would clearly not be applicable because sales are typically to marketers or others acting in a middleman-firm role with the expressed responsibility of reselling the natural gas. The participants with whom we spoke indicated that they had not encountered any restrictions. Several market participants did point out that "burner-tip" sales—i.e. to utilities—could entail a restriction on the utility from reselling the natural gas; however, they made clear that such sales, in their experience, were downstream of first-sales and first re-sales as well, especially in the U.S. Gulf Coast.

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<sup>&</sup>lt;sup>4</sup> The Exchange contacted 15 firms, surveying 10, as well as a market participant group that included several dozen members. The individually contacted firms included major producers and marketers. The Energy Market Participant Group was organized through Hunton & Williams LLP to discuss and comment on regulatory issues.

- Henry Hub is largely downstream of first-sales; some first-sales take place there but, typically, not as part
  of a term sale. Consequently, natural gas production that is readily accessible to Henry Hub in terms of
  transportation is also readily accessible commercially. Natural gas that has readily accessible
  transportation to Henry Hub is not otherwise committed and unavailable to be delivered at Henry Hub.
- Term sales do not result in reductions to the deliverable supply for Henry Hub. All market participants
  agreed that natural gas purchased on a term sale is available for re-sale and delivery, including to the
  Henry Hub and that all market participants downstream of first-sales participate in the market for resale
  (as some first-sellers do).
- Our sources expressly advised us that any production sold long-term was available for re-sale, which is especially the case in the U.S. Gulf Coast market and the Henry Hub.

## IV. The 1996 Deliverable Supply Estimate Underlying the Existing Position Limit and Market Changes Since 1996

#### A. The 1996 Position Limit Approval and Deliverable Supply Estimate

In October 1996, NYMEX received approval from the Commission for its currently effective spot month position limits for the Henry Hub Contract. The determinative factor for the deliverable supply estimate at that time was capacity. The receipt capacity at that time was approximately 6,705 Henry Hub Contract equivalents (NG contract unit: 10,000 MMBtu).

#### B. Market Changes since the 1996 Position Limit Approval

Since the approval of the position limits for the Henry Hub Contract in 1996, deliverable supply has been materially impacted by a number of important and significant changes in the domestic natural gas market and the operation of Henry Hub including: a change of ownership in Chevron Corporation's acquisition of Texaco Corporation; interconnection increases at Henry Hub; and storage capacity increases near the Henry Hub. In September 2014, EnLink Midstream purchased Henry Hub from Chevron.

#### V. NYMEX's Updated Deliverable Supply Estimate and Supporting Data

As indicated above, the factors that NYMEX considered in updating deliverable supply are natural gas production, deliverable capacity at the Henry Hub, and natural gas storage. The following sections set forth recent data regarding each of these components and identify the updated deliverable supply estimate supported by the data.

#### A. Data for Natural Gas Production

In performing our analysis of deliverable supply at the Henry Hub, we first reviewed EIA data and determined that certain production levels reported by EIA, while containing relevant data, would include production that would not be accessible to be delivered at the Henry Hub. Tables 1-3 provide EIA data on Federal Offshore Louisiana and Texas marketed natural gas production by month from January 2008 through September 2014. Federal Offshore production is a subset of production that is readily accessible to be delivered at the Henry Hub but the onshore Louisiana and Texas production includes production from parts of each state that would not be readily accessible to the Henry Hub.

Federal Offshore Production since 2008 has ranged from 6,196 contract equivalents in September 2008, when Hurricane Ike disrupted oil and natural gas production in the U.S. Gulf Coast, to 24,106 contracts equivalent in January 2008. Since 2008, the monthly average has been 15,475 contract equivalents, and in 2014 through September (the most recent month available at the time the analysis was performed), the monthly average was 10,194 contract equivalents. During 2014 (through September), the monthly production ranged from 9,371 contract equivalents in February to 10,617 contract equivalents in May.

Since 2008, the range for onshore Louisiana is 8,816 contract equivalents in September 2008 (again during Hurricane Ike) to 27,545 contract equivalents in December 2011. For onshore Texas, the range is 49,967 contract equivalents in February 2011 to 67,775 contract equivalents in August 2014.

As indicated above, NYMEX believes that not all onshore Louisiana and Texas is readily accessible to the Henry Hub. Consequently, even though EIA is the pre-eminent official source for production data, we reviewed the Bentek production estimates in order to identify information for specific offshore and onshore areas that are accessible to the Henry Hub.

Table 5 provides Bentek's estimates for 2009, 2010, 2011, 2012, 2013, and 2014 (through December 30) of daily production for Onshore and Offshore Louisiana, Texas, Mississippi and Alabama in million cubic feet. Applying daily average offshore production accessible to the Henry Hub as estimated by Bentek over 30-day periods for each of these years, yielded totals that were comparable to EIA's monthly average of Federal offshore production: 2009—21,726 (Bentek) contract equivalents versus 20,241 (EIA) respectively; 2010—19,728 (Bentek) contract equivalents versus 18,709 (EIA) respectively; 2011—16,305 contract equivalents (Bentek) versus 15,103 contract equivalents respectively, 2012—14,007 (Bentek) contract equivalents versus 12,563 contract equivalents respectively; 2013—12,579 versus 10,910 contract equivalents ,and 2014—11,706 (Bentek through December 30) versus 10,194 contract equivalents (EIA through September) respectively.

One reason for the differences between Bentek's and EIA's data is that Bentek's data would also include state offshore production that is directed to the Interstate pipeline system, which is a base source from which Bentek retrieves data. Bentek's average 30-day period estimate of onshore production that was accessible to the Henry Hub during this period was: 2009-7,413 contract equivalents; 2010-5,829 contract equivalents; 2011- 5,796 contract equivalents; 2012- 5,634; 2013- 6,651 contract equivalents; and 2014-7,683 (through December 30) contract equivalents. Therefore, in terms of the total production for offshore and onshore regions accessible to the Henry Hub, Bentek estimates that the average number of contract equivalents of production per 30-day periods was 29,139 in 2009, 25,557 in 2010, 22,101 in 2011, 19,641 in 2012, 19,230 in 2013,and 19,389 in 2014 (through December 30). We believe that Bentek's estimates underestimate production that can readily access the Henry Hub because we believe additional in-State production areas would not be included in Bentek's U.S. Gulf Coast estimates. Consequently, we believe that any estimates based on the use of these data are conservative.

Declining natural gas production levels in the U.S. Gulf Coast area over the past several years reflect a supply response to relatively low prices—in nominal terms, levels last seen in 2001-2. Contemporaneously, natural gas production levels have increased in other areas, including areas that have reasonable access to the Henry Hub. The Exchange monitors production regularly and, in light of the continued production in the Gulf Coast region and other areas, anticipates the continuing central role provided by the Henry Hub as a delivery mechanism for natural gas. For instance, the EIA reported in July 2011 that, in the U.S. Gulf Coast region, there is 100 trillion cubic feet of recoverable natural gas resource in shale formations. (The analysis was current as of the time EIA's study was published but based on drilling data available in January 2009; additional recoverable natural gas reserves since then would not have been included.)

The production quantities included in these estimates represent production that is tendered in the secondary (or spot) market and which could easily access the Henry Hub delivery mechanism to dependably fulfill a secondary (or spot) market delivery there. The actual delivery path for production depends on the actual commercial activity each month in the secondary market, including delivery obligations for NYMEX natural gas contracts. There are multiple delivery points (including the Henry Hub) where such secondary market deliveries can take place for this production and the actual delivery locations for specific production each month fluctuates with its corresponding secondary market transactions.

#### В. **Data for Henry Hub Deliverable Capacity**

The inflowing natural gas daily receipts capacity at the Henry Hub is 2,955,000 MMBtu which converts into 296 contracts per day and 8,865 contracts per 30-day month. The daily deliveries capacity at Henry Hub, outflowing natural gas, is 3,070,000 MMBtu which converts into 307 contracts per day and 9,210 contracts per month.

Additionally. The Exchange has taken into consideration backhaul<sup>5</sup> operating capacity in estimating the deliverable supply. Backhaul or "paper transport" of gas by displacement is a traditional and standard practice in both the natural gas pipeline system and at the Henry Hub. Also, The Exchange has confirmed with the pipeline operator that incorporating displacement is both reasonable and appropriate. Displacement or backhaul capacity has not been calculated for Sea Robin as the pipeline has single-flow direction bringing natural gas from the offshore Gulf of Mexico into Henry Hub.

Incorporating displacement operating capacity into the estimate for deliverable supply, the Exchange employed equivalent methodology to incorporating forward-haul operating capacity: 1. Confirmation that system supplies with access to displacement at Henry Hub exceed operating displacement. 2. Incorporating displacement operating capacity, which equal 100% of the forward-haul capacity. The Exchange confirmed system supply access to Henry Hub displacement operating capacity with outside vendor Genscape. Regarding displacement operating capacity, the Exchange consulted with the pipeline operator who also confirmed that recognizing a system capability of displacement which equaled 100% of design capacity for each interconnection point was reasonable.

Based on the methodology described immediately above, the Exchange calculated operating displacement corresponding to the receipts estimates of 2,955,000 MMBtu per day and the deliveries estimates of 3,070,000 MMBtu per day. Combining the design capacity with the displacement estimates (with the exception of Sea Robin) results in total receipts capacity of 5,660,000 MMBtu per day and deliveries capacity of 6,140,000 MMBtu per day. In terms of 30-day monthly contracts equivalents, this converts into 16,980 contracts for receipts capacity and 18,420 contracts for deliveries capacity. Applying the displacement capacity to receipts capacity, which is less than the deliveries capacity, yields a deliverable capacity of 16,980 contracts.

#### C. Data for Natural Gas Storage in State of Louisiana and Producing Area

Table 4 and Chart 1 provide storage information from EIA for Louisiana and Producing Regions respectively. Producing regions include: Alabama, Arkansas, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma, and Texas. For Louisiana, since 2008, the number of contract equivalents stored has ranged from 36,167 for March 2014, to 64,236 for October 2013. EIA does not provide storage levels at greater geographic detail than these levels on a regular basis. As previously indicated, we believe that the combination of production and storage is not the determinative factor in estimating deliverable supply for the Henry Hub— deliverable capacity is.

#### **Updated Deliverable Supply Estimate**

As indicated in Table 5, the monthly production with ready access to Henry Hub delivery location has averaged 19,389 contract equivalents year-to-date in 2014 (through December 30). In 2009, the production averaged 29,391 contracts and, it averaged 25,554 contracts in 2010, 22,101 in 2011, 19,641 in 2012, and 19,230 in 2013 respectively. 6 (We believe these also underestimate production readily accessible to the Henry Hub, which is consistent with our intent to estimate conservatively.) As noted above, the deliverable capacity is equal to 16,980 contracts per 30-day month. Due to the fact that production levels (and stored product) exceed deliverable capacity, deliverable capacity is the binding factor in estimating deliverable supply, which has been the case since the Henry Hub Contract was introduced in 1990. Accordingly, the Exchange's estimate of deliverable supply is 16,980 contract equivalents.

<sup>&</sup>lt;sup>5</sup> Displacement refers to the common practice of accommodating the scheduling and transportation of natural gas in opposite directions at pipeline interconnection points. Where such bi-directional flows or system nominations are common, displacement increases the effective flow capacity. The use of displacement is standard practice at the Henry Hub.

<sup>&</sup>lt;sup>6</sup> The recent reduction in production constitutes a market supply response to historically low prices; the U.S. Gulf Coast region remains a vital source of natural gas.

Table 1 Federal Offshore--Gulf of Mexico Natural Gas Marketed Production (Million Cubic Feet)<sup>7</sup>

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,008	241,064	228,507	239,263	209,165	208,428	219,044	230,193	211,888	61,961	133,579	157,377	173,874
2,009	195,525	184,696	207,335	195,000	203,298	210,961	223,920	211,532	200,721	207,439	190,220	198,268
2,010	202,102	188,046	209,373	193,806	192,728	177,531	178,573	190,298	177,334	183,545	171,021	180,704
2,011	178,597	152,160	168,311	160,766	162,416	149,309	147,208	149,986	123,410	141,464	137,005	141,696
2,012	139,540	128,722	140,948	131,788	128,938	116,156	126,404	108,952	109,626	125,393	124,245	126,851
2,013	122,965	108,629	116,449	114,285	113,213	102,690	108,099	102,742	107,506	100,771	106,685	105,214
2,014	100,572	93,713	101,429	102,775	106,170	101,857	103,631	104,518	102,804			

Table 2 **Louisiana Natural Gas Marketed Production** (Million Cubic Feet)<sup>8</sup>

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2,008	116,750	109,119	117,523	114,700	121,073	118,955	123,401	119,936	88,164	114,570	116,842	116,935
2,009	117,724	109,038	121,175	120,190	126,861	123,191	130,019	135,035	132,683	142,318	143,288	147,086
2,010	152,114	144,750	166,194	166,844	177,121	181,200	194,020	198,162	198,036	202,153	205,389	224,116
2,011	224,410	208,495	246,230	242,398	255,559	243,809	257,767	266,831	263,106	274,314	270,841	275,447
2,012	266,018	236,070	251,175	239,808	250,093	249,264	259,293	254,498	242,246	246,800	229,323	230,850
2,013	233,578	208,662	223,297	210,514	214,801	203,400	204,839	195,708	180,036	178,739	173,800	179,459
2,014	172,241	155,321	169,985	165,818	172,643	166,984	166,123	164,701	160,943			

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<sup>&</sup>lt;sup>7</sup> Source: http://tonto.eia.gov/dnav/ng/hist/n9050fx2m.htm <sup>8</sup> lbid. http://www.eia.gov/dnav/ng/hist/n9050la2m.htm

Table 3 Texas Natural Gas Marketed Production (Million Cubic Feet)<sup>9</sup>

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2008	560,422	525,439	572,389	561,741	593,781	574,002	599,241	601,936	548,192	607,763	596,417	619,369
2009	627,592	549,812	611,626	577,383	589,499	563,018	568,827	576,556	539,050	550,208	521,418	543,985
2010	553,583	506,387	569,082	539,504	575,647	542,364	569,554	568,846	550,540	574,093	573.241	592,453
2010	333,363	300,387	309,062	339,304	373,047	342,304	309,334	300,040	330,340	374,093	373,241	392,433
2011	588,714	499,667	599,244	579,060	606,707	579,536	600,815	605,105	590,030	622,392	612,834	628,759
2012	615,313	573,572	616,831	601,984	629,597	607,154	635,843	644,861	628,407	636,186	627,156	658,591
2013	608,363	554,925	614,532	601,424	639,494	615,268	647,127	651,833	634,739	661,723	659,615	656,358
2014	645,779	560,647	632,301	627,049	652,156	633,894	653,409	677,748	649,956			

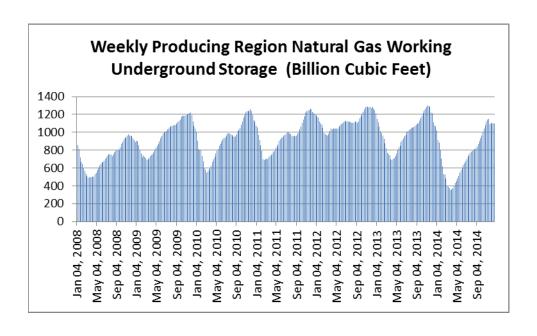
Table 4 Louisiana Natural Gas Underground Storage Volume In Contract Equivalent 10

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2008	44,149	40,965	40,075	40,824	42,675	44,309	45,933	47,595	46,488	49,779	50,682	49,774
2009	45,251	43,144	44,609	46,863	51,224	52,501	54,600	55,979	58,417	59,297	59,734	54,479
2010	47,879	42,441	43,099	45,598	47,685	49,883	51,347	52,189	55,564	60,366	61,746	58,370
2011	53,068	47,935	49,432	50,869	53,639	54,109	53,000	52,660	55,156	60,736	62,396	61,938
2012	58,960	55,677	58,333	58,150	58,949	60,098	59,731	59,756	61,873	63,768	62,637	61,185
2013	56,155	51,157	46,717	48,100	50,592	53,703	56,908	58,846	61,564	64,236	62,716	59,058
2014	47,318	40,894	36,167	37,786	40,771	43,780	47,382	49,994	53,766			

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<sup>&</sup>lt;sup>9</sup> Ibid http://www.eia.gov/dnav/ng/hist/n9050tx2m.htm <sup>10</sup> Source: EIA http://www.eia.gov/dnav/ng/hist/n5030la2m.htm

Chart 1
Producing Region Natural Gas Working Underground Storage
(Billion Cubic Feet)<sup>11</sup>



<sup>11</sup> Source: EIA

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Table 5 US Gulf Natural Gas Production Accessible to Henry Hub (Production in million cubic feet per day)<sup>12</sup>

Available LA/TX/MS/AL	***	2010	2212	****	2212	****
Natural Gas Supply	2014	2013	2012	2011	2010	2009
Bentek LA Offshore YTD	2,668	2,947	3,261	3,902	4,761	5,166
Bentek LA Onshore YTD	476	666	750	805	773	888
Bentek LA Ghishore 11D	470	000	730	003	773	000
Bentek TX Offshore YTD	242	261	303	268	237	422
Bentek TX Onshore YTD	2,043	1,503	1,064	1,044	1,073	1,467
Bentek MS Offshore YTD	444	358	395	477	744	761
Bentek AL Offshore YTD	548	627	710	788	834	893
Bentek AL-MS-FL Onshore YTD	42	48	64	83	97	116
Total Bentek LA, TX, MS/AL	6,463	6,410	6,547	7,367	8,519	9,713
Daily Contract Equivalent (CE)	646	641	655	737	852	971
30-Day Month CE	19,389	19,230	19,641	22,101	25,557	29,139
25% of 30-Day Month CE	4,847	4,808	4,910	5,525	6,389	7,285
Available Natural Gas Offshore						
Supply	2014	2013	2012	2011	2010	2009
Total Bentek Offshore LA, TX,	2.002	4.402	4.660	E 42E	6 576	7 242
MS/AL	3,902	4,193	4,669	5,435	6,576	7,242
Daily Contract Equivalent (CE)	390.20	419	467	544	658	724
30-Day Month CE	11,706	12,579	14,007	16,305	19,728	21,726
Available Natural Gas Onshore Supply	2014	2013	2012	2011	2010	2009
	2014	2013	2012	2011	2010	2009
Total Bentek Onshore LA, TX, MS/AL	2,561	2,217	1,878	1,932	1,943	2,471
Daily Contract Equivalent (CE)	256	222	188	193	194	247
30-Day Month CE	7,683	6,651	5,634	5,796	5,829	7,413

<sup>12</sup> Source: Bentek

### **CBOT Oats Deliverable Supply Analysis**

#### Background:

Oats are a cereal grain suitable for human consumption but more commonly used in livestock feed. USDA estimates the 2013/14 U.S. oat crop at 1.120 million metric tons (approximately 65 million bushels).

### Oats Futures Delivery Capacity (Updated Annually):

Oat shipping certificates may be issued from one of the currently regular for delivery facilities located in one of the following territories:

Oats from regular facilities located within the Chicago Switching District, the Burns Harbor, Indiana Switching District or the Minneapolis, Minnesota or St. Paul, Minnesota Switching Districts, or within the Duluth, Minnesota or Superior, Wisconsin Switching District may be delivered in satisfaction of Oats futures contracts.

Chicago and Burns Harbor, Indiana Switching District - When used in these Rules, the Chicago Switching District will be that area geographically defined by Tariff ICC WTL 8020-Series and that portion of the Illinois Waterway at or above river mile 304 which includes the Calumet Sag Channel and the Chicago Sanitary & Ship Canal. When used in these Rules, Burns Harbor, Indiana Switching District will be that area geographically defined by the boundaries of Burns Waterway Harbor at Burns Harbor, Indiana which is owned and operated by the Indiana Port Commission.

Facilities approved for delivery on Oats futures are limited in the number of shipping certificates that they may issue to an amount not to exceed 20 times their total daily rate of loading barges, or in the case of the Chicago and Burns Harbor delivery territory, their registered storage capacity. As of March 2015, firms regular for delivery on CBOT Oats futures had approved capacity to issue 19,153 shipping certificates or 95.765 million bushels of Oats.

Below are the facilities regular for delivery on Oats futures in March 2015 along with the maximum number of shipping certificates they may issue, with each shipping certificate equivalent to 5,000 bushels:

Firm	Location	Maximum Certificates Deliverable
Cargill, Inc.	Burns Harbor , IN	1,553
Chicago & Illinois River Marketing LLC	Chicago, IL	2,462

Duluth Lake Port, LLC	Duluth, MN	834
General Mills Operations, LLC	Duluth, MN	759
General Mills Operations, LLC	Superior, WI	2,714
Hansen- Mueller Co.	Superior, WI	646
WB Duluth Storage, LLC	Duluth, MN	2,200
ADM Grain Co.	St. Paul, MN	373
General Mills Operations, Inc.	Minneapolis, MN	480
General Mills Operations, Inc.	Minneapolis, MN	801
General Mills Operations, Inc.	Fridley, MN	991
General Mills Operations, Inc.	Washburn, MN	710
Riverland Ag Corp.	Minneapolis, MN	265
Riverland Ag Corp.	Shakopee, MN	674
Riverland Ag Corp.	Savage, MN	1,855
Riverland Ag Corp.	Minneapolis, MN	921
Riverland Ag Corp.	Minneapolis, MN	915

# Oat Futures Deliverable Supply Procedures and Estimates (Updated Annually):

Each Tuesday the Registrar's Office publishes Oats meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities.

Deliverable supply is estimated as the stocks of grain in regular facilities on the Friday prior to First Notice Day. This is likely a very conservative estimate of deliverable supply because it does not count the significant amount of Oats that are

likely near the delivery facilities and could easily be placed into delivery position very quickly.

Futures Contract	Stocks of Oats in
Expiration	Regular Facilities
ZXPII a CIOTI	on the Friday prior
	to FND (1M
	Bushels)
Mar 2014	3.66
Mar 2013	20.25
Mar 2012	31.70
MAR AVG	18.54
May 2014	5.38
May 2013	15.47
May 2012	27.12
MAY AVG	15.99
Jul 2014	6.62
Jul 2013	9.61
Jul 2012	21.90
JUL AVG	12.71
Sep 2014	7.67
Sep 2013	3.22
Sep 2012	24.88
SEP AVG	11.92
Dec 2014	12.51
Dec 2013	5.47
Dec 2012	28.51
DEC AVG	15.50
AVG ALL DELV	14.93
MONTHS	

As the table above shows, estimated deliverable supply for all delivery months over the past three calendar years has been 14.93 million bushels or 2,986 contract equivalents. The delivery month with the largest estimated deliverable supply is the March expiration with average delivery stocks of 18.54 million bushels (3,708 contract equivalents) and the delivery month with the smallest estimated deliverable supply is the September expiration with average delivery stocks of 11.92 million bushels (2,384 contract equivalents).

Unfortunately there is no readily available data on oats under long-term contracts or agreements that could not be delivered on futures and should not be counted in deliverable supply estimates. To get a sense of the extent oats are under long-

term agreements and not deliverable, the Exchange reached out to the oat regular delivery firms ADM, Cargill, Nidera, and General Mills. Feedback from these firms indicates generally zero (0) percent of oats in their facilities are under long-term agreement and could not be delivered against Oat futures. One firm indicated generally zero percent under long-term agreement but at the very most five percent during some limited time frames. Given this feedback and the conservative nature of the estimate, the Exchange does not believe oat stocks under long-term agreements significantly affect deliverable supply.

Twenty-five percent of the average estimated deliverable supply (2,986 contracts) is 746 contracts and 25 percent of the smallest estimated monthly deliverable supply (2,384 contracts) is 596 contracts. The spot-month position limit in Oat futures is 600 contracts. Although 25 percent of the September estimated deliverable supply is slightly below the spot-month position limit, that estimate is a very conservative estimate that does not take into account stocks of oats that could easily be brought into the delivery system. Thus, the Exchange does not believe a reduction in the September spot-month position limit is warranted.

#### **Palladium Futures**

#### **Analysis of Deliverable Supply**

The Exchange revisited position limits in the Palladium contract in 2014. The key components of the deliverable supply for the Palladium Futures contract are the stocks at the Exchange Licensed Depositories ("Depository" or "Depositories"). In accordance with Commission precedent, as reflected in the recently adopted CFTC rules for position limits on physical commodity derivatives, NYMEX is submitting updated deliverable supply estimates for the Palladium Futures contract.

#### I. Key Components of Supply

#### A. Production

Palladium production represents an additional source of supply each year. Palladium supply increased 6.7%% in 2013 to a record 9.2 million ounces<sup>1</sup> driven primarily by a sharp increase in secondary supply of palladium during the year. Mine production rose 3.7% in 2013 to 6.78 million ounces mainly due to recovery of mine production in South Africa following multiple strikes during 2012<sup>2</sup> Fabrication demand rose for the fourth consecutive year reaching a record 8.8 million ounces as result of strong and steady demand from the auto sector.<sup>3</sup>

#### **B.** Depository Stocks

By the rules of the Exchange, each Depository is required to furnish to the Exchange the level of Exchange grade inventory on a daily basis. The level of Exchange palladium inventories is made publically available daily on the Exchange website (<a href="http://www.cmegroup.com/market-data/reports/registrar-reports.html">http://www.cmegroup.com/market-data/reports/registrar-reports.html</a>).). Further the rules of the Exchange require an independent inventory audit to be performed annually to provide a comprehensive reconciliation of stocks stored in Depositories with records maintained by both the Exchange and the Depository<sup>4</sup>. The stocks that are reported to the Exchange on a daily basis are in contract units. These stocks include both registered and eligible palladium stored in the Depositories. Registered stock is that material which meets the specifications of the Palladium Futures contract for which a warrant has been issued. In addition to the registered stocks, there is an eligible category of stocks which is that material that meets the specifications of the Palladium Futures contract, but for which

<sup>&</sup>lt;sup>1</sup> CPM Group Platinum Group Metals Yearbook 2014, p. 106

<sup>&</sup>lt;sup>2</sup> CPM Group Platinum Group Metals Yearbook 2014, p. 106

<sup>&</sup>lt;sup>3</sup> CPM Group Platinum Group Metals Yearbook 2014, p. 101

<sup>&</sup>lt;sup>4</sup> The Exchange rules require an annual inventory audit in compliance with Exchange procedures to be performed at the Depository by an independent auditor and to prepare and submit to the Exchange an audit report certifying the records of the Depository accurately reflect the Exchange's records.

no warrant has been issued. The eligible stocks are readily available to be placed on warrant and readily available to deliver against Palladium Futures contracts and, hence, are considered to be a component of deliverable supply.

#### II. Key Indicators of Supply

#### A. Cash Market Palladium Trading

Palladium is a component of the Platinum Group Metals that also includes Palladium, and other minor PGM's. Like Platinum it serves as a precious metal, but really more an industrial metal. Its primary use is in the electronics, jewelry, and automotive industries. Though not considered as much a safe haven financial investment as gold and silver, palladium does still attract investors to buy the metal in response to economic, political, and fiscal concerns as a hedge against negative economic developments.

#### **B. Term Contracts**

The Bank for International Settlements (BIS) surveys banks on a semi-annual basis, the latest of which was completed as of June 2014. The notional amount outstanding of over-the-counter markets for Palladium as of the end of the first half of 2014 was estimated to be \$4 billion, as shown in Table 1.

Table 1: Global OTC Palladium Market<sup>5</sup>

Period	Notional Value (in billions)
H1 2010	5
H2 2010	4
H1 2011	5
H2 2011	6
H1 2012	6
H2 2012	7
H1 2013	3
H2 2013	4
H1 2014	4

**Source: Bank for International Settlements** 

<sup>&</sup>lt;sup>5</sup> Bank for International Settlements (http://www.bis.org/statistics/dt19.pdf)

The BIS category for the notional amounts outstanding for precious metals excludes gold, but does not break down the individual statistics for silver, platinum, and palladium. The Exchange extrapolated the notional value for palladium futures and options using the open interest and prices for end of Q1 2014 to estimate the palladium share of the BIS total amounts outstanding for precious metals (excluding gold). The Exchange estimates that palladium represents approximately 9.03% of the notional amounts outstanding for precious metals (excluding gold).

## III. The Deliverable Supply Estimate Underlying the Existing Position Limit and Market Changes

#### A. Past Position Limit Approval and Deliverable Supply Estimate

The Exchange had last reviewed the position limits for the Palladium Futures contract in 2014. Based on decreasing levels of inventory in the Depositories, the spot month position limit was lowered from 650 contracts to 500 contracts.

#### IV. Updated Deliverable Supply Estimate and Supporting Data

The Exchange believes that reliable and conservative estimates for the deliverable supply come from existing inventories in its Exchange Licensed Depositories ("Depository") for Exchange delivery.

In estimating deliverable supply for Palladium Futures, we relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical depository stocks that could reasonably be considered to be reliably available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

In general, the term "deliverable supply" 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. <sup>6</sup>

Accordingly, there are two categories of stocks considered in updating the existing deliverable supply estimates underlying the Platinum Futures contract:

<sup>&</sup>lt;sup>6</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

- (1) Registered Stocks
- (2) Eligible Stocks

In 2013, the Exchange began reporting the breakdown of Registered stocks and Eligible stocks of palladium inventories.

### A. Approved Depositories

To determine inventory estimates, NYMEX reviewed information provided by the Depositories. For Palladium, the Depositories include Brinks, HSBC Bank, JP Morgan, Manfra, Tordella & Brookes, Inc., Scotia Mocatta, CNT Depository, and Delaware Depository Service Company. The Depositories update their stocks daily and report those levels including movement of metal into and out of the Depository to the Registrar. An inventory report of all Depositories is posted to the Exchange's website daily.

#### **B. Depository Stocks**

In performing our analysis of deliverable supply based on the total palladium inventory held in the Depositories, we first reviewed the Depository data to determine monthly averages from daily Depository reports in the last five years. The figures in Table 2 below represent monthly average inventory levels. In the evaluation of the palladium inventory levels, the material represented by the number of paper warrants still outstanding as of December 2014 by the Depositories was 24 NYMEX Palladium Futures contract equivalents. Since this material is not deliverable in its current form and has remained in its current form for the past three years, it has been excluded from the inventory levels in Table 2 and, subsequently, from the deliverable supply.

Table 2: Monthly Average Stock Levels in Depositories (NYMEX Palladium Futures contract equivalents)

Month	Average of Registered	Average of Eligible	Average of Total
Jan-12			6,011
Feb-12			5,991
Mar-12			5,979
Apr-12			5,918
May-12			5,875
Jun-12			5,792
Jul-12			5,716
Aug-12			5,581
Sep-12			5,439

Oct-12			5,380
Nov-12			5,326
Dec-12			5,298
Jan-13	2,350	3,124	5,474
Feb-13	2,263	3,130	5,394
Mar-13	2,370	3,208	5,578
	1,904	3,535	5,439
Apr-13	1,826	3,573	5,399
May-13	1,789	3,692	5,480
Jun-13	· · · · · · · · · · · · · · · · · · ·		•
Jul-13	1,713	3,941	5,654
Aug-13	1,703	3,905	5,607
Sep-13	1,711	3,868	5,578
Oct-13	1,339	4,175	5,513
Nov-13	1,302	4,144	5,446
Dec-13	1,344	4,073	5,417
Jan-14	1,157	4,250	5,406
Feb-14	1,157	4,146	5,302
Mar-14	1,814	2,988	4,802
Apr-14	1,401	2,653	4,054
May-14	1,379	2,644	4,023
Jun-14	1,480	2,420	3,992
Jul-14	1,388	1,954	3,342
Aug-14	1,380	1,477	2,857
Sep-14	1,436	1,229	2,664
Oct-14	1,284	1,218	2,502
Nov-14	911	1,301	2,212
Dec-14	734	1,428	2,162
Average	1,547	3,003	4,554

Source: CME Group

#### C . Paper Warrant Conversion to Electronic Delivery System

Beginning in August 2008, NYMEX began a conversion from paper warrants as a title of ownership to palladium stored in Depositories to an electronic format. As part of this process, all holders of paper warrants were required to return the warrants to the Depository for conversion into electronic format in order to be deliverable against the Exchange's Palladium Futures contract. While the paper warrants would still be recognized as a title of ownership of the palladium, they would no longer be acceptable for delivery unless converted to electronic form. Any metal still held in the form of paper warrants is to be reported to the Exchange on the daily stock report required by each

Depository to the Exchange. In January 2015, the Exchange asked the Depositories to provide its record of the current number of paper warrants that are still in existence and have not been converted to electronic format. Table 3 below shows a breakdown by each Exchange Licensed Depository as of the end of 2014 of its outstanding paper warrants and total electronic warrants. As indicated, the paper warrants represent 3.05% of total warrants held by the Depositories. As compared to the total inventory level, the paper warrants represent 1.09% of the palladium stock level.

Table 3: Paper Warrants and Electronic Warrants in Exchange Licensed Depositories

Depository	Number of Paper Warrants	Number of Electronic Warrants	Total Warrants	Paper Warrants as a % of Total Warrants	Paper Warrants as a % of Total Inventory
Scotia	0	384	384	0.00%	0.00%
Delaware Depository Service Company	4	69	73	5.48%	0.18%
Brinks	16	140	156	10.26%	0.73%
HSBC	4	63	67	5.97%	0.18%
JP Morgan Chase	0	80	80	0.00%	0.00%
CNT Depository	0	0	0	0.00%	0.00%
Manfra, Tordella & Brookes	0	29	29	0.00%	0.00%
Total	24	765	789	3.05%	1.09%

Palladium backing outstanding paper warrants meets all contract specifications and, thus, is reported in the inventory levels. That being said and with an eye towards being conservative, we have determined that these warrants may not necessarily be intended for Exchange delivery that they are not deliverable in their current form. The paper warrants, though representing only 1.09% of the total palladium inventory level, have been excluded from the deliverable supply analysis in order to best represent the material that the Exchange considers readily available for delivery against the Exchange's Palladium futures contract.

#### D. Updated Deliverable Supply Estimate

Based on the above analysis the Exchange estimates the deliverable supply for the Palladium Futures contract to be 4,554 palladium contract equivalents based on the average total inventory supply in the Depositories in the last three years. Using average palladium inventory level in the last three years as the basis for deliverable supply, the current spot month position limit of 500 contracts represents 10.98% of the deliverable supply. Analysis of deliverable supply will be conducted by the Exchange's Research Department on an annual basis for global production and supply and the cash market for palladium. The Exchange will review the deliverable supply based on Exchange inventory levels on a semi-annual basis.

#### **Platinum Futures**

### **Analysis of Deliverable Supply**

The Exchange revisited position limits in the Platinum contract in 2012. The key components of the deliverable supply for the Platinum Futures contract are the stocks at the Exchange Licensed Depositories ("Depository" or "Depositories"). In accordance with Commission precedent, as reflected in the recently adopted CFTC rules for position limits on physical commodity derivatives, NYMEX is submitting updated deliverable supply estimates for the Platinum Futures contract.

#### I. Key Components of Supply

#### A. Production

Platinum production represents an additional source of supply each year. Total platinum supply rose in 2013 to 7.2 million ounces largely due to higher mine supplies which rose 4.8% year over year. Despite the positive growth, platinum supplies remain vulnerable to problems in South Africa which represents about 73% of the world's platinum mine supply, including mine closures, safety stoppages, and labor disputes. A major strike against the top three platinum producers, which began in January 2014, is expected to result in sharp declines in the supplies of PGM's. It can be readily observed that the NYMEX position limit is comparatively small compared by the overall global production of platinum.

#### **B.** Depository Stocks

By the rules of the Exchange, each Depository is required to furnish to the Exchange the level of Exchange grade inventory on a daily basis. The level of Exchange platinum inventories is made publically available daily on the Exchange (http://www.cmegroup.com/market-data/reports/registrar-reports.html). Further the rules of the Exchange require an independent inventory audit to be performed annually to provide a comprehensive reconciliation of stocks stored in Depositories with records maintained by both the Exchange and the Depository<sup>1</sup>. The stocks that are reported to the Exchange on a daily basis are in contract units. These stocks include both registered and eligible platinum stored in the Depositories. Registered stock is that material which meets the specifications of the Platinum Futures contract for which a warrant has been issued. In addition to the registered stocks, there is an eligible category of stocks which is that material that meets the specifications of the Platinum Futures contract, but for which no warrant has been issued. The eligible stocks are readily available to be placed on warrant

<sup>&</sup>lt;sup>1</sup> The Exchange rules require an annual inventory audit in compliance with Exchange procedures to be performed at the Depository by an independent auditor and to prepare and submit to the Exchange an audit report certifying the records of the Depository accurately reflect the Exchange's records.

and readily available to deliver against Platinum Futures contracts and, hence, are considered to be a component of deliverable supply.

#### II. Key Indicators of Supply

#### A. Cash Market Platinum Trading

Platinum is a component of the Platinum Group Metals that also includes palladium, and other minor PGM's. The platinum market is a fraction of the size of the gold and silver markets in terms of physical ounces traded and as well as the dollar value of the metal traded. While platinum is a precious metal, it is considered more of an industrial metal for its use in the electronics, jewelry, and automotive industries. Though not considered as much a safe haven financial investment as gold and silver, platinum does still carry some financial traits similar to the other precious metals.

#### **B. Term Contracts**

The Bank for International Settlements (BIS) surveys banks on a semi-annual basis, the latest of which was completed as of June 2014. The notional amount outstanding of overthe-counter markets for Platinum as of the end of the first half of 2014 was estimated to be \$6 billion, as shown in Table 1.

Table 1: Global OTC Platinum Market<sup>2</sup>

Period	Notional Value (in billions)
H1 2010	10
H2 2010	10
H1 2011	12
H2 2011	12
H1 2012	12
H2 2012	14
H1 2013	9
H2 2013	6
H1 2014	6

Source: Bank for International Settlements

<sup>&</sup>lt;sup>2</sup> Bank for International Settlements (http://www.bis.org/statistics/dt19.pdf)

The BIS category for the notional amounts outstanding for precious metals excludes gold, but does not break down the individual statistics for silver, platinum, and palladium. The Exchange extrapolated the notional value for platinum futures and options using the open interest and prices for end of Q1 2014 to estimate the platinum share of the BIS total amounts outstanding for precious metals (excluding gold). The Exchange estimates that platinum represents approximately 13.4% of the notional amounts outstanding for precious metals (excluding gold).

## III. The Deliverable Supply Estimate Underlying the Existing Position Limit and Market Changes

#### A. Past Position Limit Approval and Deliverable Supply Estimate

The Exchange had last reviewed the position limits for the Platinum Futures contract in October 2012. Based on decreasing levels of inventory in the Depositories, the spot month position limit was lowered from 700 contracts to 500 contracts.

#### IV. Updated Deliverable Supply Estimate and Supporting Data

The Exchange believes that reliable and conservative estimates for the deliverable supply come from existing inventories in its Exchange Licensed Depositories ("Depository") for Exchange delivery.

In estimating deliverable supply for Platinum Futures, we relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical depository stocks that could reasonably be considered to be reliably available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

In general, the term "deliverable supply" 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.<sup>3</sup>

Accordingly, there are two categories of stocks considered in updating the existing deliverable supply estimates underlying the Platinum Futures contract:

<sup>&</sup>lt;sup>3</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

- (1) Registered Stocks
- (2) Eligible Stocks

In 2013, the Exchange began reporting the breakdown of Registered stocks and Eligible stocks of platinum inventories.

#### A. Approved Depositories

To determine inventory estimates, staff reviewed information provided by the Depositories. For Platinum, the Depositories include Brinks, HSBC Bank, JP Morgan, Manfra, Tordella & Brookes, Inc., Scotia Mocatta, CNT Depository, and Delaware Depository Service Company. The Depositories update their stocks daily and report those levels including movement of metal into and out of the Depository to the Registrar. An inventory report of all Depositories is posted to the Exchange's website daily.

#### **B. Depository Stocks**

In performing our analysis of deliverable supply based on the total platinum inventory held in the Depositories, we first reviewed the Depository data to determine monthly averages from daily Depository reports in the last three years. The figures in Table 2 below represent monthly average inventory levels. In the evaluation of the platinum inventory levels, the material represented by the number of paper warrants still outstanding as of January 2015 by the Depositories was 62 NYMEX Platinum Futures contract equivalents. Since this material is not deliverable in its current form and has remained in its current form for the past three years, it has been excluded from the inventory levels in Table 2 and, subsequently, from the deliverable supply.

Table 2: Monthly Average Stock Levels in Depositories (NYMEX Platinum Futures contract equivalents)

	Average of	Average of	Average of
Month	Registered	Eligible	Total
Jan-12			3,581
Feb-12			3,567
Mar-12			3,569
Apr-12	_		3,959
May-12			3,909

Jun-12			3,888
Jul-12			3,850
Aug-12			3,828
Sep-12			3,928
Oct-12			4,187
Nov-12			4,156
Dec-12			4,153
Jan-13	1,939	2,290	4,229
Feb-13	1,501	2,661	4,163
Mar-13	1,433	2,778	4,211
Apr-13	1,834	2,779	4,613
May-13	1,699	2,852	4,551
Jun-13	1,696	2,857	4,553
Jul-13	1,700	2,846	4,547
Aug-13	1,407	3,081	4,488
Sep-13	1,622	3,119	4,742
Oct-13	2,517	3,131	5,649
Nov-13	1,607	3,418	5,025
Dec-13	1,486	3,466	4,952
Jan-14	1,866	3,076	4,942
Feb-14	1,603	3,316	4,919
Mar-14	1,356	3,509	4,865
Apr-14	1,096	3,782	4,878
May-14	927	3,919	4,846
Jun-14	911	3,911	4,822
Jul-14	1,272	3,156	4,428
Aug-14	802	2,171	2,974
Sep-14	733	2,132	2,864
Oct-14	902	1,934	2,836
Nov-14	550	2,124	2,675
Dec-14	529	2,112	2,641
Average	1,374	2,934	4,309

Source: CME Group

#### C . Paper Warrant Conversion to Electronic Delivery System

Beginning in August 2008, NYMEX began a conversion from paper warrants as a title of ownership to platinum stored in Depositories to an electronic format. As part of this

process, all holders of paper warrants were required to return the warrants to the Depository for conversion into electronic format in order to be deliverable against the Exchange's Platinum Futures contract. While the paper warrants would still be recognized as a title of ownership of the platinum, they would no longer be acceptable for delivery unless converted to electronic form. Any metal still held in the form of paper warrants is to be reported to the Exchange on the daily stock report required by each Depository to the Exchange. In January 2015, the Exchange asked the Depositories to provide its record of the current number of paper warrants that are still in existence and have not been converted to electronic format. Table 3 below shows a breakdown by each Exchange Licensed Depository as of the end of 2014 of its outstanding paper warrants and total electronic warrants. As indicated, the paper warrants represent 10.20% of total warrants held by the Depositories. As compared to the total inventory level, the paper warrants represent 2.30% of the platinum stock level.

Table 3: Paper Warrants and Electronic Warrants in Exchange Licensed Depositories

Depository	Number of Paper Warrants	Number of Electronic Warrants	Total Warrants	Paper Warrants as a % of Total Warrants	Paper Warrants as a % of Total Inventory
Scotia	1	34	35	2.86%	0.04%
Delaware Depository Service Company	7	108	115	6.09%	0.26%
Brinks	3	256	272	1.11%	0.11%
HSBC	51	114	165	30.91%	1.89%
JP Morgan Chase	0	6	6	0.00%	0.00%
CNT Depository	0	10	10	0.00%	0.00%
Manfra, Tordella & Brookes	0	5	5	0.00%	0.00%
Total	62	533	608	10.20%	2.30%

Source: CME Group

Platinum backing outstanding paper warrants meets all contract specifications and, thus, is reported in the inventory levels. That being said and with an eye towards being conservative, we have determined that these warrants may not necessarily be intended for Exchange delivery and that they are not deliverable in their current form. The paper warrants, though representing only 2.30% of the total platinum inventory level, have been excluded from the deliverable supply analysis in order to best represent the material that the Exchange considers readily available for delivery against the Exchange's Platinum futures contract.

#### D. Updated Deliverable Supply Estimate

Based on the above analysis the Exchange estimates the deliverable supply for the Platinum Futures contract to be 4,309 NYMEX Platinum Futures contract equivalents based on the average total inventory supply in the Depositories in the last three years. Using average platinum inventory level in the last three years as the basis for deliverable supply, the current spot month position limit of 500 contracts represents 11.60% of the deliverable supply. Analysis of deliverable supply will be conducted by the Exchange's Research Department on an annual basis for global production and supply and the cash market for platinum. The Exchange will review the deliverable supply based on Exchange inventory levels on a semi-annual basis.

## **Deliverable Supply Analysis**

#### **New York Harbor RBOB Gasoline**

The New York Mercantile Exchange, Inc. ("NYMEX" or "Exchange") has undertaken an analysis of deliverable supply for its New York Harbor RBOB Gasoline Futures Contract ("RBOB Contract") in connection with efforts to ensure that the deliverable supply estimate reflects current market realities.

The Exchange's estimate of RBOB gasoline deliverable supply to the New York Harbor delivery area is based on refinery and blender production, pipeline flows and storage levels based on data from the U.S. Energy Information Administration (EIA).

The Exchange estimates the monthly deliverable supply of RBOB gasoline to the New York Harbor (NYH) to be approximately 30.0 million barrels, which is equivalent to 30,000 contracts per month. Given the CFTC spot month position limit guideline of not exceeding 25% of the available monthly supply, the deliverable supply of New York Harbor RBOB gasoline would support a spot month position limit of up to 7,500 contract equivalents. The current spot month position limit for the NYMEX New York Harbor RBOB Gasoline Futures Contract is 1,000 contracts.

#### I. Introduction

The New York Harbor RBOB Gasoline Futures Contract is the main benchmark used for pricing of gasoline in the U.S. petroleum products market. The U.S. gasoline market represents a large physical market, with total U.S. refinery capacity of 9.0 million to 9.5 million barrels per day of gasoline.

In the U.S. gasoline market, there are two main formulations for gasoline: Reformulated Gasoline and Conventional Gasoline, as required by a complex network of Federal and State regulations. The U.S. Environmental Protection Agency ("EPA") administers the Clean Air Act ("CAA") requirements, and various State agencies regulate their own specific air rules. Under

the CAA, the urban areas with the highest levels of smog pollution are required to use clean-burning Reformulated Gasoline blended with 10% ethanol. These urban areas include the entire Northeastern United States, California, Chicago, Atlanta, and Houston. These areas account for approximately 40% of U.S. gasoline demand. The 10% ethanol blending requirement in Reformulated Gasoline requires that the ethanol must be segregated from the gasoline at the wholesale level in the pipeline distribution system. So in the wholesale market, the gasoline is shipped unfinished (without the ethanol) and it is called Reformulated Blendstock for Oxygen Blending (RBOB). The ethanol blending occurs at the last stage of the delivery process when the gasoline is loaded into the tanker truck for retail delivery.

### A. New York Harbor Delivery Region

New England and the Central Atlantic Coast of the United States, collectively defined by the EIA as the "Northeast", is a well-connected and integrated geographical region in terms of oil and products infrastructure. The region is part of the larger PADD 1 (Petroleum Administration Defense District), and more specifically defined by PADD 1a and PADD1b, which include: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania<sup>1</sup>.

Located in both New York and New Jersey, the New York Harbor area is the largest oil importing and third largest container port in the nation, and is the main oil and refined products pricing and trading hub. Petroleum products in New York Harbor are supplied by refineries located in New Jersey, Delaware and Pennsylvania, all located within 100 miles of the New York Harbor area. East Coast refineries, a majority of which are located in New Jersey and Philadelphia, send products by local pipelines into New York Harbor.

Many of the petroleum products delivered to New York Harbor are redistributed to smaller ports where they supply local demand. In particular, the Hudson River, which meets the Atlantic Ocean in New York Harbor, provides a major inland water route for petroleum product barges supplying eastern New York and parts of western New England. Significant volumes are

<sup>&</sup>lt;sup>1</sup>http://www.eia.gov/analysis/petroleum/nerefining/prelim/

shipped to New England via barge from New York Harbor. On the other side of the State, western New York product markets are primarily supplied from Canada at the Port of Buffalo, and via the Buckeye and Sunoco pipeline systems from Pennsylvania and the Midwest<sup>2</sup>.

The Colonial Pipeline is the largest refined products pipeline in the US and a key products supply link for the Northeast. The pipeline connects the Northeast to refinery output from the US Gulf Coast and foreign imports, principally from Canada, Virgin Islands, Caribbean and Europe. Colonial's network of pipelines crosses 13 states, serving more than 265 marketing terminals in the Southern and Eastern United States. The pipeline provides a link from the US Gulf Coast to the New York Harbor area through the south and across the Eastern seaboard. It generally takes from 14 to 24 days for a product batch on the Colonial Pipeline to get from Houston, Texas to the New York Harbor, with 18.5 days the average time. The Trainer, Marcus Hook and Philadelphia refineries are strategically located along the pipeline.

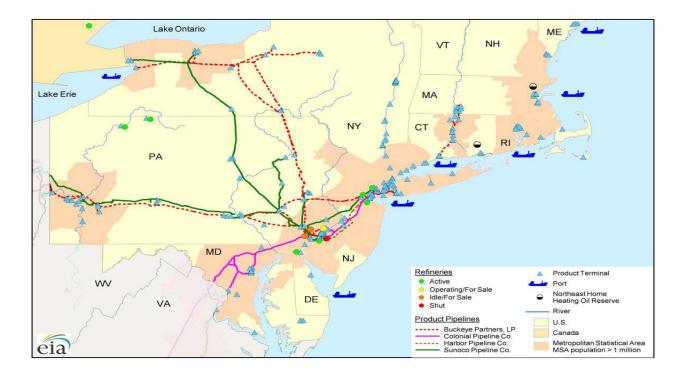


Figure 1 - Northeast Refined Products Market Logistics<sup>3</sup>

<sup>&</sup>lt;sup>2</sup> http://205.254.135.7/state/state-energy-profiles-analysis.cfm?sid=NY

<sup>&</sup>lt;sup>3</sup> Source: EIA, <u>h ttp://www.eia.gov/analysis/petroleum/nerefining/update/pdf/neprodmkts.pdf</u>

#### Confidential DRAFT

Earlier in 2011, Colonial expanded the northern end of its Houston-to-New York system, adding 100,000 b/d of capacity. In addition, the company completed a series of system upgrades leading to more than 100,000 b/d of capacity for distillates<sup>4</sup> specifically serving the New Jersey, Pennsylvania, and New York markets. Also, Colonial Pipeline added an additional 100,000 b/d of gasoline and distillates capacity in early 2013<sup>5</sup> to meet demand in on the northern portion of the line (Greensboro, NC to Linden, NJ).

As of January 1, 2014, there were 139 operating refineries and three idle refineries in the US with total atmospheric crude oil distillation capacity (ACDU) of 17.9 million barrels per day (bbl/d), a 101,000 bbl/d increase in capacity from January 1, 2013<sup>6</sup>. The East Coast (PADD 1) had 10 operable refineries, 9 of which are currently operating, with 1.1 million barrels per day (b/d) of atmospheric crude distillation capacity. The region has 475,800 bbl/d of fluid catalytic cracking (FCC) capacity. PADD 1 includes all states in New England, the Mid-Atlantic, and the South Atlantic and is subdivided into three sub-PADDs.

- PADD 1A New Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut
- PADD 1B New York, Pennsylvania, New Jersey, Delaware, Maryland, Washington DC
- PADD 1C West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida

Supply dynamics for each of the three sub-PADDs vary. PADD 1A, New England, has no refineries and relies on imports and transfers from other PADDs, primarily PADD 1B. PADD 1C, the South Atlantic, also has no operating refineries and relies primarily on pipeline transfers and marine shipments from PADD 3 and imports. PADD 1B is supplied by a combination of in-region refineries, transfers from other PADDs -primarily from PADD 3 but also from PADD 2 - and imports<sup>7</sup>.

<sup>&</sup>lt;sup>4</sup> http://www.eia.gov/pressroom/presentations/sieminski 10102012.pdf

<sup>&</sup>lt;sup>5</sup> http://www.colpipe.com/press\_release/pr\_114.asp

<sup>6</sup> http://www.eia.gov/todayinenergy/detail.cfm?id=16911

http://www.eia.gov/petroleum/refinery/outage/pdf/refinery\_outage.pdf

### **Confidential DRAFT**

The majority of PADD 1B refineries are located in New Jersey, Delaware and Pennsylvania, and within 100 miles of the New York Harbor area. These refineries are directly connected to the New York Harbor market by local pipelines and/or waterborne barges. In 2013, production from refineries in PADD 1B supplied 48% and 73% of the region's gasoline and distillate needs, respectively, according to the EIA. A list of Northeast refineries is provided in Table 1.

Table 1 - Mid-Atlantic (PADD 1B) Refineries

Name	State	Owner	Capacity	Status
Port Reading	NJ	Hess	70,000 b/d	CLOSED
Marcus Hook	PA	Sunoco Logistics	178,000 b/d	CLOSED. Being converted to NGL storage.
Delaware City Refinery	DE	PBF Energy	182,200 b/d	Operational
Perth Amboy	NJ	Buckeye Partners	80,000 b/d (Asphalt only)	Operational
Bayway Refinery	NJ	Phillips 66 Company	238,000 b/d	Operational
Paulsboro Asphalt	NJ	Nustar Asphalt Refining	70,000 b/d (Asphalt only)	Operational
Paulsboro Refining	NJ	PBF Energy LLC	160,000 b/d	Operational
Bradford	PA	American Refining Group	11,000 b/d	Operational
Philadelphia	PA	Philadelphia Energy Solutions/Carlyle Group	335,000 b/d	Operational
Warren	PA	United Refining Inc.	65,000 b/d	Operational
Trainer	PA	Monroe Energy LLC/Delta Airlines	185,000 b/d	Operational

## II. Methodology: Key Components of Deliverable Supply

In estimating deliverable supply for the New York Harbor RBOB Gasoline Contract, we relied on Commission long-standing precedent, which prescribes that key components of deliverable supply is estimated based on production and supply levels that could reasonably be considered readily available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

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[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<sup>8</sup>.

Accordingly, there are three key components that the Exchange took into account when updating the deliverable supply estimates of the New York Harbor RBOB Gasoline Futures Contract:

- A. Refinery and Blender Production;
- B. Pipeline flows and net receipts to the delivery area;
- C. Storage levels in the delivery area.

The main source of data for the cash market analysis is the US Energy Information Administration (EIA) which provides detailed data on the key components of deliverable supply. The EIA provides data on a weekly, monthly, and annual basis.

### A. Refinery and Blender Production

In recent years, Northeast refineries supplied about 40% of gasoline (and 60% of the ULSD) consumed in the Northeast. Net receipts from the Gulf Coast and imports supply the remainder of the market<sup>9</sup>. The EIA provides gasoline production data for RBOB that is produced by both refiners and blenders, under the category of "refiner and blender net production." The majority of PADD 1 refineries are located in New Jersey, Delaware and Pennsylvania, with direct connection to the New York Harbor market by pipelines and/or waterborne barges. In addition, the "refiner and blender" category includes RBOB produced by blenders that use imported gasoline blending components.

<sup>&</sup>lt;sup>8</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

<sup>&</sup>lt;sup>9</sup> http://www.eia.gov/pressroom/testimonies/howard 03192012.pdf

Blenders are significant producers of RBOB gasoline, and a vast amount of RBOB blending components are sourced through imported gasoline blendstocks that enter via the New York Harbor. Generally gasoline blenders are large trading companies that operate in the global market, such as Vitol, Morgan Stanley, JP Morgan, Glencore, Cargill, Koch, Trafigura, and Northville. Given that the blenders' production of RBOB is sourced from imported gasoline blending components, these imported components are imbedded in the category of "blender" production. Therefore, given that imported gasoline blending components are included in the "blender" production category, the Exchange will include only the EIA's "Refiner and Blender Net Production" category as the key component of New York Harbor supply (and not add imports).

According to EIA data from 2012-2014, and as presented in Table 2 below, the three-year average of RBOB production by refiners and blenders in PADD 1 was 1.197 million barrels per day, or 35.91 million barrels per month. The RBOB gasoline that is produced in PADD 1 is in the vicinity of New York Harbor, and the majority of this RBOB is transshipped and/or stored in NYH terminals. According to input from market participants, approximately 30% to 40% of RBOB production is committed to retail distribution networks, and the remaining portion is available for re-selling in the spot market. Therefore, at least 60% of PADD 1 production of RBOB would be available for re-selling in the NYH spot market. Consequently, we estimate that approximately 21.55 million barrels of RBOB would be deliverable in New York Harbor.

<u>Table 2 - PADD 1 Production and Net Imports</u>

RBOB Gasoline, in thousand b/d	2012	2013	2014	Average
Refinery and Blender Net Production <sup>10</sup>	1,177	1,196	1,217	1,197
Imports of RBOB Gasoline Blending Components 11	141	186	131	153
Exports <sup>12</sup>	0	0	0	0

<sup>&</sup>lt;sup>10</sup> EIA, <a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WGRRPP12&f=W">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WGRRPP12&f=W</a>

<sup>11</sup> EIA, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\_EPOBGRR\_IM0\_R10-Z00\_MBBLD&f=M

<sup>&</sup>lt;sup>12</sup> EIA, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MGREXP11&f=M

The majority of gasoline imports into PADD 1 arrive in the New York Harbor area, the largest oil import hub in the US. According to industry sources, approximately 50% of PADD 1 imports occur in the New York Harbor area. According to EIA data from 2012-2014, average imports of RBOB blending components into PADD 1 was approximately 150,000 b/d. It is worth emphasizing that blenders have the flexibility to produce RBOB gasoline using either imported blending components or other gasoline blending components. However, as previously mentioned, to prevent potential double-counting of imported blending components with domestic as reported by the EIA, the Exchange will not use imports in its deliverable supply analysis.

### B. Pipeline Flows and Net Receipts

The US Gulf Coast, or PADD 3, refining capacity accounts for 50% of total US production of refined products, and provides approximately 275,000 b/d of RBOB gasoline to PADD 1 (See Table 3 below) via pipeline and water. However, the majority of PADD 1 pipeline receipts of RBOB from PADD 3 do not end up in the New York Harbor area as they are delivered at points further south of NYH in the Washington, DC metropolitan area. According to market participants, only about 25% to 30% of PADD 1 gasoline pipeline receipts are delivered to the New York Harbor area at Linden, NJ. Therefore, using the 25% estimate for RBOB pipeline shipments of 275,000 b/d, the pipeline supply to NYH accounts for approximately 68,000 barrels per day, or 2.0 million barrels per month.

Table 3 – RBOB Movements from PADD 3 into PADD  $1^{13}$ 

Year	(Barrels per Day)
2012	268,400
2013	274,000
2014	285,100
Average	275,800

<sup>&</sup>lt;sup>13</sup> EIA, Data is converted to barrels per day, <a href="http://www.eia.gov/dnav/pet/pet">http://www.eia.gov/dnav/pet/pet</a> move ptb dc R10-R30 mbbl m.htm

## C. Inventories of Gasoline in the New York Harbor Market

New York Harbor has a petroleum bulk terminal storage capacity of over 75 million barrels, making it the largest petroleum product hub in the country. The three-year average of gasoline stocks held in the Central Atlantic region, or PADD1b, including New York, New Jersey, and Pennsylvania is approximately 28.7 million barrels (See Table 4 below). According to market participants, the New York Harbor RBOB market accounts for 25% to 30% of the inventories reported in EIA's PADD 1B inventory statistics. Using a conservative estimate of 25% of PADD 1b inventories, the average stock level of gasoline is estimated to be about 7.2 million barrels in New York Harbor. Based on estimates from industry experts, we determined that the operational minimum levels for storage tanks in the New York Harbor area are approximately 10%. Therefore, we estimate that approximately 720,000 barrels of the approximately 7.2 million barrels of stored gasoline in NYH is used for operations, leaving 6.5 million barrels available for spot month delivery from inventory.

Table 4 - Gasoline Stocks in PADD 1B in thousands of barrels 14

2014	29,300
2014	29,300
2012	26,000 31,000

While the EIA does not report RBOB blending component stocks data for PADD 1B specifically, weekly statistics are provided for PADD 1. Accordingly, stocks of RBOB blending components in PADD 1 averaged approximately 18 million barrels in 2012-2014<sup>15</sup>.

<sup>14</sup> http://www.eia.gov/dnav/pet/pet stoc wstk dcu r1y w.htm

<sup>15</sup> http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=m\_epobgrr\_sae\_r10\_mbbl&f=m\_

## Summary of Deliverable Supply

The key components NYMEX considered in updating deliverable supply are refinery and blender production, net imports, pipeline flows from the US Gulf Coast, and storage levels in the delivery area. The Exchange estimates the monthly deliverable supply of RBOB gasoline to the New York Harbor to be approximately 30.0 million barrels, which is equivalent to 30,000 contracts per month. Given the CFTC spot month position limit guideline of not exceeding 25% of the available monthly supply, the deliverable supply of RBOB Gasoline to New York Harbor would support a spot month position limit of up to 7,500 contract equivalents. The current spot month position limit for the New York Harbor RBOB Gasoline Futures Contract is 1,000 contracts.

The following are the three components that comprise the deliverable supply estimate of 30.0 million barrels per month:

- A. Refinery and Blender Production = 21.55 million barrels
- B. Pipeline flows to the delivery area = 2.0 million barrels
- *C.* Storage levels in the delivery area = 6.5 million barrels

## **APPENDIX**

A. PADD 1, Refiner and Blender Production<sup>16</sup> (Monthly Average using Weekly Data in Thousands B/D)

Year	Month	Total
2012	Jan	1,127
	Feb	1,158
	Mar	1,163
	Apr	1,150
	May	1,201
	Jun	1,208
	Jul	1,210
	Aug	1,219
	Sep	1,184
	Oct	1,198
	Nov	1,134
	Dec	1,172
2013	Jan	1,095
	Feb	1,125
	Mar	1,157
	Apr	1,200
	May	1,241
	Jun	1,279
	Jul	1,265
	Aug	1,235
	Sep	1,173
	Oct	1,189
	Nov	1,200
	Dec	1,177
2014	Jan	1,107
	Feb	1,140
	Mar	1,185
	Apr	1,218
	May	1,251
	Jun	1,279
	Jul	1,263
	Aug	1,252
	Sep	1,230
	Oct	1,223
	Nov	1,228
	Dec	1,233
Average		1,197

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<sup>&</sup>lt;sup>16</sup> http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WGRRPP12&f=W

## B. PADD 1: RBOB Imports<sup>17</sup> (in Thousands B/D)

Year	Month	Total
2012	Jan	154
	Feb	119
	Mar	103
	Apr	137
	May	148
	Jun	194
	Jul	169
	Aug	180
	Sep	121
	Oct	77
	Nov	113
	Dec	178
2013	Jan	146
	Feb	171
	Mar	156
	Apr	208
	May	235
	Jun	222
	Jul	176
	Aug	176
	Sep	188
	Oct	192
	Nov	185
	Dec	173
2014	Jan	122
	Feb	141
	Mar	138
	Apr	112
	May	194
	Jun	113
	Jul	137
	Aug	127
	Sep	87
	Oct	79
	Nov	139
	Dec	185
Average		153

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<sup>17</sup> http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\_EPOBGRR\_IMO\_R10-Z00\_MBBLD&f=M\_

## C. Net Shipments of RBOB by Pipeline/Tanker/Barge From PADD 318

Year	Month	
2012	Jan	284,300
	Feb	239,200
	Mar	241,000
	Apr	220,200
	May	280,500
	Jun	273,400
	Jul	280,800
	Aug	278,300
	Sep	253,100
	Oct	297,600
	Nov	299,600
	Dec	273,200
2013	Jan	283,600
	Feb	270,600
	Mar	252,800
	Apr	227,900
	May	276,700
	Jun	284,600
	Jul	327,900
	Aug	303,600
	Sep	245,400
	Oct	278,700
	Nov	258,900
	Dec	277,000
2014	Jan	301,800
	Feb	255,700
	Mar	255,900
	Apr	243,200
	May	262,000
	Jun	308,900
	Jul	420,500
	Aug	290,000
	Sep	259,600
	Oct	266,700
	Nov	276,300
	Dec	281,100
Average		275,800

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<sup>&</sup>lt;sup>18</sup> http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MO1MX\_R10R30\_1&f=M

## D. PADD 1B (Central Atlantic) Total Gasoline Stocks 19

Central Atlantic (PADD 1B) End	ling Stocks of Total Gasoline (Thousand Ba	rrels)
Year		
2012	Jan	31,698
	Feb	32,084
	Mar	30,970
	Apr	28,273
	May	24,439
	Jun	22,669
	Jul	24,065
	Aug	24,374
	Sep	21,097
	Oct	22,725
	Nov	23,434
	Dec	26,807
2013	Jan	31,285
	Feb	32,780
	Mar	33,222
	Apr	34,256
	May	32,551
	Jun	31,133
	Jul	30,162
	Aug	29,168
	Sep	31,878
	Oct	28,321
	Nov	26,809
	Dec	30,710
2014	Jan	32,665
	Feb	30,782
	Mar	31,218
	Apr	28,335
	May	31,308
	Jun	30,515
	Jul	30,734
	Aug	29,349
	Sep	26,869
	Oct	24,471
	Nov	25,507
	Dec	29,901
Average		28,700

<sup>&</sup>lt;sup>19</sup> http://www.eia.gov/dnav/pet/pet\_stoc\_wstk\_dcu\_r1y\_m.htm

#### **CBOT Rough Rice Deliverable Supply Analysis**

#### Background:

Rough Rice is a major food grain in the United States and arguably the most important food grain globally. USDA estimates the 2013/14 U.S. Rough Rice crop at 190 million cwt.

#### Rough Rice Futures Delivery Capacity (Updated Annually):

The par delivery points for rough rice are warehouses within the boundaries of the Arkansas counties of Craighead, Jackson, Poinsett, Woodruff, Cross, St. Francis, Lonoke, Prairie, Monroe, Jefferson, Arkansas and DeSha. No warehouse regular for delivery of rough rice shall be located outside the twelve Arkansas counties listed above.

Facilities approved for delivery on Rough Rice futures are limited in the number of warehouse receipts that they may issue. As of March 2015, firms regular for delivery on CBOT Rough Rice futures had approved capacity to issue 11,759 warehouse receipts or 23.518 million cwt of Rough Rice.

Below are the facilities regular for delivery on Rough Rice futures in March 2015 along with the maximum number of warehouse receipts they may issue, with each warehouse receipt equivalent to 2,000 cwt:

Firm	Location	Maximum Receipts Deliverable
CROP MARKETING SERVICES, LLC	McGehee, AR	833
EASTSIDE RICE LLC	Jonesboro, AR	655
ERWIN-KEITH INC.	Wynne, AR	722
FARMER'S GRANARY, INC.	Patterson, AR	450
FARMER'S GRANARY, INC.	McCrory, AR	75
SOUTHERN RICE AND COTTON, LLC	Harrisburg, AR	476
HARVEST RICE, INC.	McGehee, AR	592
HARVEST RICE, INC.	Otwell, AR	14
POINSETT RICE & GRAIN, INC.	Cherry Valley, AR	443

POINSETT RICE &	Diaz, AR	631
GRAIN, INC.		
POINSETT RICE &	Waldenburg, AR	873
GRAIN, INC.		
PRODUCER'S	Stuttgart, AR	61
RICE MILL, INC		
PRODUCER'S	Stuttgart, AR	200
RICE MILL, INC		
PRODUCER'S	Wynne, AR	239
RICE MILL, INC		
RICELAND	Dumas, AR	225
FOODS, INC.		
RICELAND	Fair Oaks, AR	225
FOODS, INC.		
RICELAND	Hickory Ridge,	
FOODS, INC.	AR	169
RICELAND	Jonesboro, AR	1,125
FOODS, INC.		
RICELAND	McGehee, AR	225
FOODS, INC.		
RICELAND	Newport, AR	180
FOODS, INC.		
RICELAND	Stuttgart, AR	1,125
FOODS, INC.		
RICELAND	Waldenburg, AR	425
FOODS, INC.		
RICELAND	Weiner, AR	225
FOODS, INC.		
RICELAND	Wheatly, AR	225
FOODS, INC.		
JONESBORO RICE	Jonesboro, AR	300
CO., LLC		
PLANTERS RICE	Brinkley, AR	250
MILL, LLC		
RITTER GRAIN	Otwell, AR	796
SERVICES		

# Rough Rice Deliverable Supply Procedures and Estimates (Updated Annually):

Each Tuesday the Registrar's Office publishes Rough Rice meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities.

Deliverable supply is estimated as the stocks of grain in regular facilities on the Friday prior to First Notice Day. This is likely a very conservative estimate of deliverable supply because it does not count the significant amount of Rough Rice

that is likely near the delivery facilities and could easily be placed into delivery position very quickly.

Futures Contract	Stocks of Rough
Expiration	Rice in Regular
Expiration	Facilities on the
	Friday prior to FND
1 0011	(1M CWTs)
Jan 2014	23.82
Jan 2013	17.63
Jan 2012	17.10
JAN AVG	19.52
Mar 2014	24.39
Mar 2013	17.24
Mar 2012	16.69
MAR AVG	19.44
May 2014	24.44
May 2013	16.54
May 2012	14.99
MAY AVG	18.66
Jul 2014	18.11
Jul 2013	10.63
Jul 2012	13.67
JUL AVG	14.14
Sep 2014	9.68
Sep 2013	5.29
Sep 2012	16.31
SEP AVG	10.43
Nov 2014	43.51
Nov 2013	24.06
Nov 2012	21.15
NOV AVG	29.57
AVG ALL DELV	18.63
MONTHS	

As the table above shows, estimated deliverable supply for all delivery months over the past three calendar years has been 18.63 million cwt or 9,315 contract equivalents. The delivery month with the largest estimated deliverable supply is the November expiration with average delivery stocks of 29.57 million cwt (14,785 contract equivalents) and the delivery month with the smallest estimated

deliverable supply is the September expiration with average delivery stocks of 10.43 million cwt (5,215 contract equivalents).

Unfortunately there is no readily available data on rice under long-term contracts or agreements that could not be delivered on futures and should not be counted in deliverable supply estimates. To get a sense of the extent rice is under long-term agreements and not deliverable, the Exchange reached out to the Rough Rice regular delivery firms Crop Marketing Service, Eastside Rice, Farmer's Granary, Harvest Rice, Poinsett Rice, Producer's Rice, Riceland, Jonesboro Rice, and Planters Rice. Feedback from these firms indicates generally zero (0) to at most five (5) percent of rice in their facilities is under long-term agreement and could not be delivered against Rough Rice futures. Given this feedback and the conservative nature of the rough rice deliverable supply estimate, the Exchange does not believe rice stocks under long-term agreements significantly affect the deliverable supply estimates.

Twenty-five percent of the average estimated deliverable supply (9,315 contracts) is 2,328 contracts and 25 percent of the smallest estimated monthly deliverable supply (5,215 contracts) is 1,303 contracts. The spot-month position limit in Rough Rice futures is 600 contracts with a scale down in the last five trading days of the expiring July futures month to 200 contracts and in the last five trading days of the expiring September futures month to 250 contracts.

#### Silver Futures

#### **Analysis of Deliverable Supply**

#### I. Key Components of Supply

#### A. Production

Silver mine production represents an additional source of supply each year. Mine production was 741 million ounces in 2013<sup>1</sup>. Secondary production including recovery from various industrial uses was estimated to be 230 million ounces in 2011.<sup>2</sup> Worldwide silver supply which includes mine production, secondary supply, and net exports from transitional economies was 971 million ounces in 2013, down from 2012 due to a sharp reduction in secondary supply <sup>3</sup>. Consequently, it can be readily observed that the COMEX spot month position limit for Silver is comparatively small compared to the overall global supply of Silver.

#### **B.** Depository Stocks

By the rules of the Exchange, each Depository is required to furnish to the Exchange the level of Exchange grade inventory on a daily basis. The level of Exchange silver inventories is made publically available daily on the Exchange website (<a href="http://www.cmegroup.com/market-data/reports/registrar-reports.html">http://www.cmegroup.com/market-data/reports/registrar-reports.html</a>). Further, the rules of the Exchange require an independent inventory audit to be performed annually to provide a comprehensive reconciliation of stocks stored in Depositories with records maintained by both the Exchange and the Depository Registered stock is that material which meets the specifications of the Silver Futures contract for which a warrant has been issued. In addition to the registered stocks, there is an eligible category of stocks which is that material that meets the specifications of the Silver Futures contract, but for which no warrant has been issued. The eligible stocks are readily available to be placed on warrant and readily available to deliver against Silver Futures contracts and, hence, are considered to be a component of deliverable supply.

<sup>&</sup>lt;sup>1</sup> CPM Group Silver Yearbook 2014

<sup>&</sup>lt;sup>2</sup> CPM Group Silver Yearbook 2014

<sup>&</sup>lt;sup>3</sup> CPM Group Silver Yearbook 2014

<sup>&</sup>lt;sup>4</sup> The Exchange rules require an annual inventory audit in compliance with Exchange procedures to be performed at the Depository by an independent auditor and to prepare and submit to the Exchange an audit report certifying the records of the Depository accurately reflect the Exchange's records.

#### II. Key Indicators of Supply

#### A. Cash Market Silver Trading

A cash and forward silver market has developed over-the-counter (OTC) in various global centers, but is centered in London, Stocks held in Depositories actually represent a small total of the cash market for Silver. The preeminent cash market is the London Bullion Market Association (LBMA) which was formed in 1987. As market activity in silver grew in the 1980's, an influx of global market participants were drawn to the London market creating the predominant center of OTC silver trading. The concept of "loco London" refers to the London bullion market as the global center for international silver trading. Members of the London bullion market trade with each other and with their clients on a principal-to-principal basis unlike Exchange traded futures. Some OTC silver trading is cleared through the London bullion market clearing system. There are six member firms that offer clearing services to the LBMA. These firms comprise an entity called the London Precious Metals Clearing Limited (LPMCL) and its members include Barclays Bank PLC, the Bank of Nova Scotia-ScotiaMocatta, Deutsche Bank AG – London Branch, HSBC Bank USA National Association - London Branch, JP Morgan Chase Bank, and UBS AG. The unit of delivery in the loco London silver market is a bar of .999 fineness with a weight close to 1,000 ounces and of London Good Delivery<sup>5</sup>. The LBMA is not an exchange and, therefore, is not required to report turnover volume. The only statistics reported on a regular basis are the surveys of the six clearing members of the LPMCL. In Table 1 below. the clearing statistics represent ounces transferred during the past five years. These volume statistics represent a small portion of the actual turnover volume in the loco London market.

Table 1: LBMA Clearing Statistics<sup>6</sup>

Year	LBMA Clearing Statistics in Ounces
2008	31,517,800,000
2009	24,454,400,000
2010	22,515,200,000
2011	44,831,300,000
2012	33,508,500,000
2013	34,447,900,000
2014	34,562,000,000

**Source: London Bullion Market Association** 

http://www.lbma.org.uk/pages/index.cfm?page\_id=50&title=clearing\_-\_statistical\_table

<sup>&</sup>lt;sup>5</sup> http://www.lbma.org.uk/pages/index.cfm?page\_id=29&title=silver\_list

<sup>&</sup>lt;sup>6</sup> London Bullion Market Association (LBMA)

Table 2: Silver Market Trading (millions of ounces)<sup>7</sup>

Year	2006	2007	2008	2009	2010	2011	2012	2013
Annual Supply	890.20	905.80	914.00	951.50	973.80	977.10	995.90	968.70
Exchange Traded Futures and Options	53,189.50	58,742.30	69,661.20	60,462.10	92,743.00	137,665.00	106,257.20	180,668.80
LBMA Clearing Volume	36,784.70	28,951.30	31,517.80	24,454.40	22,515.20	44,831.30	33,508.50	34,447.90
Total	90,864.40	88,599.40	102,093.00	85,868.00	116,232.00	183,473.40	140,761.60	216,085.40

Source: CPM Group

#### **B.** Term Contracts

The Bank for International Settlements ("BIS") surveys banks on a bi-annual basis, the latest of which was completed as of June 2014. The notional amount outstanding of the over-the-counter markets for Silver was estimated at \$38.0 billion at the end of the first half of 20148, as shown in Table 3 below.

Table 3: Global OTC Silver Market9

Period	Notional Value (in billions)	
H1 2010	112	
H2 2010	108	
H1 2011	127	
H2 2011	115	

<sup>7</sup> CPM Group Silver Yearbook 2014

<sup>&</sup>lt;sup>8</sup> The BIS has a total precious metals estimate excluding-gold of \$94 billion notional amounts outstanding. The Exchange believes this is primarily Silver, but recognizes Platinum and Palladium would also be included. The Exchange estimates that silver represents about 78% of the notional amounts outstanding for precious metals (excluding gold).

<sup>9</sup> Bank for International Settlements (http://www.bis.org/statistics/dt19.pdf)

H1 2012	116
H2 2012	136
H1 2013	82
H2 2013	48
H1 2014	38

Source: Bank for International Settlements

The BIS category for the notional amounts outstanding for precious metals excludes gold, but does not break down the individual statistics for silver, platinum, and palladium. The Exchange extrapolated the notional value for silver, platinum, and palladium futures and options using the open interest and prices for end of Q1 2014 to estimate the silver share of the BIS total amounts outstanding for precious metals (excluding gold). The Exchange estimates that silver represents approximately 77.5% of the notional amounts outstanding for precious metals (excluding gold).

## III. The Deliverable Supply Estimate Underlying the Existing Position Limit and Market Changes

#### A. Past Position Limit Approval and Deliverable Supply Estimate

The spot month position limit for Silver is currently set at 1,500 contracts and has been in effect since 1983. The average inventory levels of Silver stored in Exchange Licensed Depositories during 1983 was 21,770 contract equivalents. The position limit of 1,500 contracts represented 7% of the deliverable supply.

#### B. Market Changes since 2001

There have been many changes in the silver market since the last estimate of deliverable supply prior to 1983. More recently, just since 2001, the financial and money markets have undergone transformative changes. The world economy has become increasingly focused on hedging financial calamity as well as depreciating currencies. This has led to an increase in investment demand in silver as well as an increase in overall fabrication demand, mostly due to growth in the electronics sector. The combination of the significant gap in time since the last estimate as well as the significant market changes which have occurred since 2001 call for updating the deliverable supply analysis.

#### IV. Updated Deliverable Supply Estimate and Supporting Data

The Exchange believes that reliable and conservative estimates for the deliverable supply come from existing inventories in its Exchange Licensed Depositories ("Depository") for Exchange delivery.

In estimating deliverable supply for Silver Futures, we relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical depository stocks that could reasonably be considered to be reliably available for delivery. Most recently, the Commission stated in its final position limit rulemaking that:

In general, the term "deliverable supply" 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. <sup>10</sup>

Accordingly, there are two categories of stocks considered in updating the existing deliverable supply estimates underlying the Silver Futures contract:

- (1) Registered Stocks
- (2) Eligible Stocks

#### A. Approved Depositories

To determine inventory estimates, staff reviewed information provided by the Depositories. For Silver, the Depositories include Brinks, HSBC Bank, JP Morgan, Delaware Depository Service Company, CNT Depository, and Scotia Mocatta. The Depositories update their stocks daily and report those levels including movement of metal into and out of the Depository to the Registrar. An inventory report of all Depositories is posted to the Exchange's website daily.

#### **B. Depository Stocks**

In performing our analysis of deliverable supply based on the total silver inventory held in the Depositories, we first reviewed the Depository data to determine monthly averages from daily Depository reports in the last three years. The figures in Table 4 below represent monthly average inventory levels itemized by Registered and Eligible categories. In the evaluation of the silver inventory levels, the material represented by the number of paper warrants still outstanding as of January 2015by the Depositories was 423 COMEX Silver Futures contract equivalents. As described in more detail later, since this material is not deliverable in its current form and has remained in its current form for the past three years, it has been excluded from the Eligible and Total levels in Table 4 and, subsequently, from the deliverable supply.

Table 4: Monthly Average Stock Levels in Depositories (COMEX Silver Futures contract equivalents)

<sup>&</sup>lt;sup>10</sup> Position Limits for Futures and Swaps, Unofficial Notice of Final Rulemaking, p. 28 (publication in Federal Register forthcoming).

Month	Average of Registered	Average of Eligible	Average of Total
Jan-12	7,255	16,989	24,244
Feb-12	7,059	18,026	25,085
Mar-12	7,003	18,784	25,787
Apr-12	6,080	21,086	27,165
May-12	7,145	20,359	27,504
Jun-12	7,182	20,930	28,112
Jul-12	7,912	19,874	27,786
Aug-12	7,260	19,759	27,019
Sep-12	7,917	19,434	27,351
Oct-12	7,691	19,982	27,673
Nov-12	7,168	20,417	27,585
Dec-12	8,300	20,235	28,535
Jan-13	7,691	22,615	30,306
Feb-13	7,483	24,559	32,041
Mar-13	8,496	24,189	32,685
Apr-13	8,293	24,768	33,062
May-13	8,813	24,237	33,050
Jun-13	8,358	24,557	32,915
Jul-13	9,464	23,593	33,058
Aug-13	8,060	24,818	32,878
Sep-13	8,570	24,031	32,601
Oct-13	8,728	24,558	33,286
Nov-13	8,879	25,016	33,895
Dec-13	10,297	24,001	34,297
Jan-14	9,934	25,038	34,972
Feb-14	10,123	25,694	35,836
Mar-14	10,534	25,504	36,043
Apr-14	10,693	24,323	35,015
May-14	11,143	23,503	34,644
Jun-14	11,411	23,332	34,743
Jul-14	11,439	23,138	34,677
Aug-14	12,030	22,882	34,912
Sep-14	12,933	22,970	35,902
Oct-14	13,289	22,590	35,864
Nov-14	13,100	22,202	35,302
Dec-14	12,924	21,913	34,837
Average	9,185	22,497	31,685

Source: CME Group

#### C . Paper Warrant Conversion to Electronic Delivery System

Beginning in August 2008, NYMEX began a conversion from paper warrants as a title of ownership to silver stored in Depositories to an electronic format. As part of this process, all holders of paper warrants were required to return the warrants to the Depository for conversion into electronic format in order to be deliverable against the Exchange's Silver Futures contract. While the paper warrants would still be recognized as a title of ownership of the silver, they would no longer be acceptable for delivery unless converted to electronic form. Any metal still held in the form of paper warrants is to be reported to the Exchange as Eligible Stocks on the daily stock report required by each Depository to the Exchange. In January 2014, the Exchange asked the Depositories to provide its record of the current number of paper warrants that are still in existence and have not been converted to electronic format. Table 5 below shows a breakdown by each Exchange Licensed Depository at the end of 2014 of its outstanding paper warrants and total electronic warrants. As indicated, the paper warrants represent 3.17% of total warrants held by the Depositories. As compared to the total inventory level that includes both Registered and Eligible stocks, the paper warrants represent 1.21% of the silver stock level.

Table 5: Paper Warrants and Electronic Warrants in Exchange Licensed Depositories

Depository	Number of Paper Warrants	Number of Electronic Warrants	Total Warrants	Paper Warrants as a % of Total Warrants	Paper Warrants as a % of Total Inventory
Scotia	168	1,032	1,200	14.00%	0.48%
Delaware Depository Service Company	47	801	848	5.55%	0.14%
Brinks	61	3,905	3,966	1.54%	0.18%
HSBC	147	797	944	15.58%	0.42%
JP Morgan Chase	0	1,706	1,706	0.00%	0.00%
CNT Depository	0	4,677	4,677	0.00%	0.00%
Total	423	12,918	13,341	3.17%	1.21%

Source: CME Group

Silver backing outstanding paper warrants meets all contract specifications and thus is reported in the Eligible Stocks category. That being said and with an eye towards being conservative, we have determined that these warrants may not necessarily be intended for Exchange delivery and that they are not deliverable in their current form. The paper warrants, though representing only 1.21% of the total silver inventory level, have been excluded from the deliverable supply analysis in order to best represent the material that the Exchange considers readily available for delivery against the Exchange's Silver futures contract.

#### D. Updated Deliverable Supply Estimate

Based on the above analysis the Exchange estimates the deliverable supply for the Silver Futures contract to be 31,685 COMEX Silver Futures contract equivalents based on the average total inventory supply in the Depositories in the last three years. Using the average silver inventory level in the last three years as the basis for deliverable supply, the current spot month position limit of 1,500 contracts represents 4.73% of the deliverable supply. Analysis of deliverable supply will be conducted by the Exchange's Research Department on an annual basis for global production and supply and the cash market for silver. The Exchange will review the deliverable supply based on Exchange inventory levels on a semi-annual basis.

#### CBOT Soybean Deliverable Supply Analysis

#### Background:

Soybeans are the second largest crop produced in the United States. They are crushed to extract their oil and high protein meal. Soybean meal is primarily used as a feed ingredient for livestock, while soybean oil is primarily used in food processing. USDA estimates the 2013/14 U.S. soybean crop at 3.358 billion bushels, a 10.4 percent increase compared to 2012/13 due to mild Midwestern weather conditions during the summer of 2014.

#### Soybean Futures Delivery Capacity (Updated Annually):

The following territories are defined for delivery in CBOT Soybean futures:

- A. Chicago and Burns Harbor, Indiana Switching District The Chicago Switching District will be that area geographically defined by Tariff ICC WTL 8020-Series and that portion of the Illinois Waterway at or above river mile 304 which includes the Calumet Sag Channel and the Chicago Sanitary & Ship Canal. Burns Harbor, Indiana Switching District will be that area geographically defined by the boundaries of Burns Waterway Harbor at Burns Harbor, Indiana which is owned and operated by the Indiana Port commission.
- B. Lockport-Seneca Shipping District The Lockport-Seneca Shipping District will be that portion of the Illinois Waterway below river mile 304 at the junction of the Calumet Sag Channel and the Chicago Sanitary & Ship Canal and above river mile 244.6 at the Marseilles Lock and Dam.
- C. Ottawa-Chillicothe Shipping District The Ottawa-Chillicothe Shipping District will be that portion of the Illinois Waterway below river mile 244.6 at the Marseilles Lock and Dam and at or above river mile 170 between Chillicothe and Peoria, IL.
- D. Peoria-Pekin Shipping District The Peoria-Pekin Shipping District will be that portion of the Illinois Waterway below river mile 170 between Chillicothe and Peoria, IL and at or above river mile 151 at Pekin, IL.
- E. Havana-Grafton Shipping District The Havana-Grafton Shipping District will be that portion of the Illinois Waterway below river mile 151 at Pekin, IL to river mile 0 at Grafton, IL.
- F. St. Louis-East St. Louis and Alton Switching Districts The St. Louis-East St. Louis and Alton Switching Districts will be that portion of the upper Mississippi River below river mile 218 at Grafton, IL and above river mile 170 at Jefferson Barracks Bridge in south St. Louis, MO.

Facilities approved for delivery on Soybean futures are limited in the number of shipping certificates that they may issue to an amount not to exceed 20 times their total daily rate of loading barges, or in the case of the Chicago and Burns Harbor delivery territory, their registered storage capacity. As of March 2015, firms regular for delivery on CBOT Soybean futures had approved capacity to issue 17,636 shipping certificates or 88.18 million bushels of soybeans.

Below are the facilities regular for delivery on Soybeans futures in March 2015 along with the maximum number of shipping certificates they may issue, with each shipping certificate equivalent to 5,000 bushels:

Firm	Location	Maximum Certificates Deliverable
Cargill, Inc.	Burns Harbor, IN	1094
Chicago & Illinois River Marketing, LLC	Chicago, IL	2462
Cargill, Inc.	Morris, IL	440
Elburn Cooperative Co.	Morris, Il	220
ADM Grain Company	Morris-E, IL	220
Cargill, Inc.	Seneca, IL	440
ADM Grain Company	Ottawa-N, IL	440
Cargill, Inc.	Ottawa, IL	440
ADM Grain Company	Ottawa-S, IL	220
Maplehurst Farms, Inc.	Ottawa, IL	220
Zen-Noh Grain Corporation	Utica, IL	220
Consolidated Grain and Barge Co.	Utica, IL	220
ADM Grain Company	La Salle, IL	220
Zen-Noh Grain Corporation	Peru, IL	220
Consolidated Grain and Barge Co.	Peru, IL	220
ADM Grain Company	Spring Valley, IL	440
Cargill, Inc.	Spring Valley, IL	440
ADM Grain Company	Hennepin, IL	440
Cargill, Inc.	Hennepin, IL	440
Zen-Noh Grain Corp.	Hennepin, IL	220
Consolidated Grain and Barge Co.	Hennepin, IL	220
ADM Grain Company	Henry, IL	220
ADM Grain Company	Lacon, IL	220
Cargill, Inc.	Lacon, IL	440
ADM Grain Company	Creve Coeur, IL	440
Bunge North America	Ottawa, IL	220
ADM Grain Company	Ottawa, IL	220
Cargill, Inc.	Havana-N, IL	440
Cargill, Inc.	Havana-S, IL	440

ADM Grain	Havana-N, IL	220
Company		
ADM Grain	Havana-S, IL	440
Company		
Cargill, Inc.	Beardstown, IL	440
ADM Grain	Beardstown, IL	220
Company		
Cargill, Inc.	Meredosia, IL	440
ADM Grain	Naples, IL	220
Company		
Zen-Noh Grain	Naples, IL	220
Corp.		
Consolidated Grain and Barge Co.	Naples, IL	220
Cargill, Inc.	Florence, IL	440
CHS, Inc.	Beardstown, IL	220
CHS, Inc.	Havana, Il	220
CHS, Inc.	St. Louis, MO	220
ADM Grain	St. Louis, MO	880
Company		
Cargill, Inc.	E. St. Louis, IL	440
Consolidated Grain	Cahokia, IL	220
& Barge Co.		
Bunge North America	Fairmont City,	440

# Soybean Futures Deliverable Supply Procedures and Estimate (Updated Annually):

Each Tuesday the Registrar's Office publishes soybeans meeting deliverable grades that are in-store as of the previous Friday at all regular delivery facilities. The USDA-AMS publishes a weekly Grain Transportation Report (GTR) that covers developments affecting the transport of grain, both in the domestic and international marketplace (<a href="http://www.ams.usda.gov/AMSv1.0/gtr">http://www.ams.usda.gov/AMSv1.0/gtr</a>). This weekly publication reports on the latest volume and price data for barges, railroads, trucks, and ocean vessels involved in the transport of grain. Included in this report is the amount of soybeans shipped through Lock 27¹ on the Mississippi River, which is a measure of soybeans that flow through the Illinois River delivery territory for Soybean futures.

Deliverable supply is estimated as the stocks of grain in regular facilities on the Friday prior to First Notice Day plus the amount to soybeans that pass through Lock 27 on the Mississippi River during the four weeks prior to First Notice Day. Mississippi River Lock 27 soybean movements capture down-bound soybeans that have traveled along the Illinois River and by the Illinois River delivery facilities and the down-bound soybeans that have traveled along the Mississippi River and by the

<sup>&</sup>lt;sup>1</sup> http://marinas.com/view/lock/103 Chain of Rocks Lock 27 Granite City IL United States

St. Louis, East St. Louis, and Alton delivery territory facilities. This is likely a very conservative estimate of deliverable supply because it does not count the significant amount of soybeans that are likely near the delivery facilities and could easily be placed into delivery position very quickly.

Futures Contract Expiration	Soybean Movement through Lock 27 on the MS River during the 4 Weeks Prior to FND (1M Bushels)	Stocks of Soybeans in Regular Facilities on the Friday prior to FND (1M Bushels)	Total Stocks (1M Bushels)
Jan-14	35.38	6.64	42.02
Jan-13	42.07	2.71	44.78
Jan-12	30.17	8.05	38.22
JAN AVG	35.87	5.80	41.67
Mar-14	13.35	5.31	18.66
Mar-13	12.99	1.45	14.44
Mar-12	19.14	6.10	25.24
MAR AVG	15.16	4.29	19.45
May-14	11.60	3.33	14.93
May-13	5.13	1.47	6.60
May-12	23.04	7.69	30.73
MAY AVG	13.26	4.16	17.42
Jul-14	9.64	2.00	11.64
Jul-13	6.88	1.39	8.27
Jul-12	19.11	6.81	25.92
JUL AVG	11.88	3.40	15.28
Aug-14	6.60	1.74	8.34
Aug-13	9.42	1.36	10.78
Aug-12	25.76	2.42	28.18
AUG AVG	13.93	1.84	15.77
Sep-14	6.96	1.06	8.02
Sep-13	7.06	1.12	8.18
Sep-12	27.59	1.05	28.64

SEP AVG	13.87	1.08	14.95
Nov-14	28.36	4.97	33.33
Nov-13	23.64	5.50	29.14
Nov-12	32.15	4.93	37.08
NOV AVG	28.05	5.13	33.18
AVG ALL DELV MONTHS	18.86	3.67	22.53

As the table above shows, estimated deliverable supply for all delivery months over the past three calendar years has been 22.53 million bushels or 4,506 contract equivalents. The delivery month with the largest estimated deliverable supply is the January expiration with average delivery stocks of 41.67 million bushels (8,334 contract equivalents) and the delivery month with the smallest estimated deliverable supply is the September expiration with average delivery stocks of 14.95 million bushels (2,990 contract equivalents).

Unfortunately there is no readily available data on soybeans under long-term contracts or agreements that could not be delivered on futures and should not be counted in deliverable supply estimates. To get a sense of the extent soybeans are under long-term agreements and not deliverable, the Exchange reached out to the soybean regular delivery firms ADM, Cargill, Nidera, and CHS. Feedback from these firms indicates generally zero (0) percent of soybeans in their facilities are under long-term agreement and could not be delivered against Soybean futures. One firm indicated generally zero percent under long-term agreement but at the very most five percent during some limited time frames. Given this feedback and the conservative nature of the estimate, the Exchange does not believe soybean stocks under long-term agreements significantly affect deliverable supply.

Twenty-five percent of the average estimated deliverable supply (4,506 contracts) is 1,126 contracts and 25 percent of the smallest estimated monthly deliverable supply (2,990 contracts) is 747 contracts. The spot-month position limit in Soybean futures is 600 contracts.

### Soybean Meal Deliverable Supply

#### Background:

Soybean meal is a bi-product created by crushing soybeans and is used as a source of protein in livestock feed rations. The USDA estimates 2013/14 soybean meal production at 38.858 million tons, a 1.7 percent increase from 2012/13.

### **Delivery Capacity:**

The CBOT Soybean Meal futures contract requires delivered soybean meal to meet the following specifications:

48% Protein Soybean Meal, produced by conditioning ground soybeans and reducing the oil content of the conditioned product by the use of hexane or homologous hydrocarbon solvents. Standard specifications are:

Protein minimum 48.0% Fat minimum 0.5% Fiber maximum 3.5% Moisture (when shipped by Processor) maximum 12.0%

When a bushel of soybeans weighing 60 pounds is crushed, the conventional result is 11 pounds of soybean oil, 44 pounds of 48% protein soybean meal, 4 pounds of hulls, and 1 pound of waste. If the hulls are retained the result is 44% protein soybean meal. In October 1992 the CBOT switched the soybean meal specifications from 44% to 48% protein.

The deliverable capacity allowed by the Exchange for facilities regular to deliver on CBOT Soybean Meal futures is up to 15 times each facility's 24-hour soybean meal production capability plus storage.

Below are the facilities regular for delivery on CBOT Soybean Meal futures and the maximum number of shipping certificates each facility may deliver:

FIRM/FACILITY	DAILY RATE OF LOADING (TONS)	MAXIMUM SHIPPING CERTIFICATES BONDED TO ISSUE
Ag Processing Incorporated		
Eagle Grove, IA	1,600	265
Manning, IA	600	115
Mason City, IA	700	114
Emmetsburg, IA	700	117
Sergeant Bluff, IA	1,500	250
Sheldon, IA	840	155
St. Joseph, MO	930	169
Archer-Daniels-Midland Co.		
Decatur, IL	1,452	242
Des Moines, IA	1,012	154
Fostoria, OH	607	104

Frankfurt, IN	695	108
Galesburg, IL	326	58
Mexico, MO	431	79
Quincy, IL	1,496	273
Bunge Milling, Inc.		
Danville, IL	1,700	855
Bunge North America (East), LLC		
Bellevue, OH	800	220
Decatur, IN	2,000	900
Morristown, IN	1,496	284
Bunge North America (ODP West),		
Inc.		
Council Bluffs, IA	2,500	545
Bunge North America, Inc.		
Cairo, IL	2,000	300
Decatur, AL	1,150	195
Cargill, Inc.		
Bloomington, IL	1,000	90
Cedar Rapids (E), IA	1,500	225
Des Moines, IA	1,100	165
Guntersville, AL	900	188
Iowa Falls, IA	1,500	225
Kansas City, MO	1,500	225
Lafayette, IN	850	128
Sioux City, IA	2,000	330
Sidney, OH	1,500	225
Consolidated Grain & Barge		
Company		
Mt. Vernon, IN	1,000	210
Incobrasa Industries, LLC		
Gilman, IL	1,000	250
Louis Dreyfus Claypool Holdings, LLC		
Claypool, IN	2,500	475
Owensboro Grain Company, LLC	_,_,	
Owensboro, KY	1,600	553
Riceland Foods, Incorporated	.,	
Stuttgart, AR	325	98
Solae LLC		
Gibson City, IL	800	220
TOTALS	43,610	9,109
· · · · · · · · · · · · · · · · · · ·	10,010	0,100

As of January 2015, the CBOT Soybean Meal futures contract has 9,109 contracts (910,900 tons) of delivery capacity.

#### **Deliverable Supply:**

The U.S. Census Bureau collected and the USDA published monthly soybean meal production estimates for the U.S. until September 2011 when the *Oilseed Crushings* report was discontinued. The National Oilseed Processors Association (NOPA) continues to publish monthly soybean meal production for its member firms. A list of processing plants included in the NOPA Statistical crush report is available here:

http://www.nopa.org/content/oilseed/NOPA%20Plants%20-%20Location%20by%20State%20 %20June%202013.pdf

Also, here is the link to the NOPA monthly statistical crush report on Thomson Reuters:

http://commoditiesupdates.thomsonreuters.com/nopa/

NOPA reports soybean meal production for 62 processing plants. Of these 62 plants, 32 of them are regular for delivering on Soybean Meal futures and there are four plants that are regular for futures delivery but not part of the NOPA Statistical crush report.

NOPA production and stocks reports are broken down into the following six regions regions:

- Illinois
- Indiana, Kentucky, Ohio, Michigan
- Southeast
- Southwest
- Iowa
- Minnesota, North Dakota, South Dakota, Montana

NOPA Territory	Number of NOPA Reporting Plants	Number of NOPA Plants that are Regular for Delivery	Percentage of NOPA Plants that are Regular for Delivery
Illinois	7	5	71%
Indiana, Kentucky, Ohio, Michigan	12	10	83%
Southeast	10	2	20%
Southwest	12	4	33%
Iowa	13	11	85%
Minnesota, North Dakota, South Dakota, Montana	8	0	0%
TOTAL	62	32	52%

Deliverable supply is estimated based on the NOPA reported soybean crush in each region multiplied by the average soybean meal yield during the month prior to each futures delivery. These values are then weighted by the percentage of NOPA member processing plants that are also regular for delivery on CBOT Soybean Meal futures to estimate futures deliverable supply.

January 2012-2014 (December 2011-2013 Production)

NOPA Territory	NOPA	NOPA Est.		Estimated
NOPA Territory	Crush	Soybean Meal	Weighting	Deliverable
	(1,000	Production		Supply in Tons
	• •			
DECEMBER 2011	bu)	(Tons)		(contracts)
Illinois	17,509	418,990	71%	297,483
IN, KY, OH, MI	31,911	763,630	83%	633,813
Southeast	20,369	487,430	20%	97,486
Southwest	29,290	700,909	33%	231,300
Iowa	32,618	780,548	85%	663,466
MN, ND, SD, MT	13,723	328,391	0%	003,400
ESTIMATED	13,723	320,391	070	1,893,548
DELIVERABLE				(18,936
SUPPLY 2011				Contracts)
30PPL1 2011				Contracts)
DECEMBER 2012				
Illinois	20,715	497,160	71%	352,984
IN, KY, OH, MI	36,007	864,168	83%	717,259
Southeast	23,299	559,176	20%	111,835
Southwest	31,163	747,912	33%	246,811
Iowa	35,192	844,608	85%	717,917
MN, ND, SD, MT	13,524	324,576	0%	0
ESTIMATED				2,146,806
<b>DELIVERABLE</b>				(21,468
SUPPLY 2012				Contracts)
DECEMBER 2013				
Illinois	20,818	499,632	71%	354,739
IN, KY, OH, MI	37,253	894,072	83%	742,080
Southeast	23,077	553,848	20%	110,770
Southwest	32,704	784,896	33%	259,016
Iowa	36,167	868,008	85%	737,807
MN, ND, SD, MT	15,364	368,736	0%	0
ESTIMATED				2,204,411
DELIVERABLE				(22,044
SUPPLY 2013				Contracts)
TCTIMATED.				2 004 500
ESTIMATED				2,081,588
DELIVERABLE				(20,816
SUPPLY 2011-				Contracts)
2013				

March 2012-2014 (February 2012-2014 Production)

March 2012-201				T =
NOPA Territory	NOPA	NOPA Est.	Weighting	Estimated
	Crush	Soybean Meal		Deliverable
	(1,000	Production		Supply in Tons
	bu)	(Tons)		(contracts)
FEBRUARY 2012		1404 540	T = 4.07	1000000
Illinois	18,207	436,512	71%	309,923
IN, KY, OH, MI	30,494	731,093	83%	606,807
Southeast	18,075	433,348	20%	86,669
Southwest	26,244	629,199	33%	207,635
Iowa	29,676	711,482	85%	604,759
MN, ND, SD, MT	13,653	327,330	0%	0
ESTIMATED				1,815,793
DELIVERABLE				(18,157
SUPPLY 2012				Contracts)
FERRUARY 0040				
FEBRUARY 2013	1	100.007	74.07	200 000
Illinois	17,629	423,096	71%	300,398
IN, KY, OH, MI	29,828	715,872	83%	594,174
Southeast	18,949	454,776	20%	90,955
Southwest	25,842	620,208	33%	204,669
Iowa	31,618	758,832	85%	645,007
MN, ND, SD, MT	12,457	298,968	0%	0
ESTIMATED				1,835,203
DELIVERABLE				(18,352
SUPPLY 2013				Contracts)
FEBRUARY 2014				
Illinois	17,535	420,840	71%	298,796
IN, KY, OH, MI	31,054	745,296	83%	618,596
Southeast	20,106	482,544	20%	96,509
Southwest	28,429	682,296	33%	225,158
Iowa	32,169	772,056	85%	656,248
MN, ND, SD, MT	12,319	295,656	0%	0
ESTIMATED	12,319	270,000	0 /0	1,895,306
DELIVERABLE				(18,953
SUPPLY 2014				Contracts)
SUPPLI ZUI4				Contracts)
ESTIMATED				1,848,767
DELIVERABLE				(18,488
SUPPLY 2012-				Contracts)
2014				
	I			

May 2012-2014 (April 2012-2014 Production)

	<del>* •</del>	2-2014 Production		
NOPA Territory	NOPA	NOPA Est.	Weighting	Estimated
	Crush	Soybean Meal		Deliverable
	(1,000	Production		Supply in Tons
	bu)	(Tons)		(contracts)
APRIL 2012				
Illinois	15,935	383,077	71%	271,984
IN, KY, OH, MI	29,299	704,348	83%	584,608
Southeast	18,805	452,072	20%	90,414
Southwest	27,164	653,023	33%	215,497
Iowa	27,818	668,745	85%	568,433
MN, ND, SD, MT	12,687	304,995	0%	0
ESTIMATED				1,730,936
DELIVERABLE				(17,309
SUPPLY 2012				Contracts)
<b>APRIL 2013</b>				
Illinois	14,009	336,216	71%	238,713
IN, KY, OH, MI	24,603	590,472	83%	490,092
Southeast	19,258	462,192	20%	92,438
Southwest	23,130	555,120	33%	183,190
Iowa	27,926	670,224	85%	569,690
MN, ND, SD, MT	11,188	268,512	0%	0
ESTIMATED				1,574,124
<b>DELIVERABLE</b>				(15,741
SUPPLY 2013				Contracts)
<b>APRIL 2014</b>				
Illinois	16,148	387,552	71%	275,162
IN, KY, OH, MI	29,712	713,088	83%	591,863
Southeast	16,081	385,944	20%	77,189
Southwest	27,302	655,248	33%	216,232
Iowa	32,116	770,784	85%	655,166
MN, ND, SD, MT	11,308	271,392	0%	0
ESTIMATED				1,815,612
<b>DELIVERABLE</b>				(18,156
SUPPLY 2014				Contracts)
ESTIMATED				1,706,891
DELIVERABLE				(17,069
SUPPLY 2012 -				Contracts)
2014				

July 2012-2014 (June 2012-2014 Production)

July 2012-2014	(June 201)	2-2014 Production		
NOPA Territory	NOPA Crush (1,000 bu)	NOPA Est. Soybean Meal Production (Tons)	Weighting	Estimated Deliverable Supply in Tons (contracts)
JUNE 2012	bu)	(10113)		(contracts)
Illinois	19,027	457,409	71%	324,760
IN, KY, OH, MI	28,790	692,112	83%	574,453
Southeast	17,983	432,311	20%	86,462
Southwest	26,085	627,083	33%	206,938
Iowa	29,364	705,911	85%	600,024
MN, ND, SD, MT	12,907	310,284	0%	0
ESTIMATED DELIVERABLE SUPPLY 2012	12,707	310,201	070	1,792,637 (17,926 Contracts)
JUNE 2013				
Illinois	13,779	330,696	71%	234,794
IN, KY, OH, MI	23,231	557,544	83%	462,762
Southeast	17,439	418,536	20%	83,707
Southwest	20,985	503,640	33%	166,201
Iowa	31,070	745,680	85%	633,828
MN, ND, SD, MT	12,547	301,128	0%	0
ESTIMATED DELIVERABLE				1,581,292 (15,813
SUPPLY 2013				Contracts)
JUNE 2014				
Illinois	12,785	306,840	71%	217,856
IN, KY, OH, MI	22,912	549,888	83%	456,407
Southeast	16,474	395,376	20%	79,075
Southwest	23,292	559,008	33%	184,473
Iowa	30,996	743,904	85%	632,318
MN, ND, SD, MT	12,258	294,192	0%	0
ESTIMATED DELIVERABLE SUPPLY 2014	, -			1,570,130 (15,701 Contracts)
ESTIMATED DELIVERABLE SUPPLY 2012 - 2014				1,648,020 (16,480 Contracts)

August 2012-2014 (July 2012-2014 Production)

		Weighting	Estimated
			Deliverable
• •			Supply in Tons
bu)	(Tons)		(contracts)
		1	
	451,069		320,259
	739,105	83%	613,457
·	415,512	20%	83,102
30,341	728,943	33%	240,551
27,242	654,489	85%	556,316
12,962	311,412	0%	0
			1,813,685
			(18,136
			Contracts)
13,419	322,056	71%	228,660
23,331	559,944	83%	464,754
17,989	431,736	20%	86,347
21,993	527,832	33%	174,185
26,612	638,688	85%	542,885
12,993	311,832	0%	0
			1,496,830
			(14,968
			Contracts)
14,112	338,688	71%	240,468
25,425	610,200	83%	506,466
15,368	368,832	20%	73,766
24,059	577,416	33%	190,547
28,260	678,240	85%	576,504
12,396	297,504	0%	0
			1,587,752
			(15,878
			Contracts)
			1,632,756
			(16,328
			Contracts)
	NOPA Crush (1,000 bu) 18,775 30,764 17,295 30,341 27,242 12,962 13,419 23,331 17,989 21,993 26,612 12,993 14,112 25,425 15,368 24,059 28,260	NOPA Crush (1,000 Production bu) (Tons)  18,775 451,069 30,764 739,105 17,295 415,512 30,341 728,943 27,242 654,489 12,962 311,412   13,419 322,056 23,331 559,944 17,989 431,736 21,993 527,832 26,612 638,688 12,993 311,832   14,112 338,688 25,425 610,200 15,368 368,832 24,059 577,416 28,260 678,240	Crush (1,000 bu)       Soybean Meal Production (Tons)         18,775 451,069 30,764 739,105 83%       71%         17,295 415,512 20%       30,341 728,943 33%         27,242 654,489 85%       85%         12,962 311,412 0%         13,419 322,056 23,331 559,944 83%       71%         23,331 559,944 83%       20%         21,993 527,832 33%       26,612 638,688 85%         12,993 311,832 0%         14,112 338,688 71%         25,425 610,200 83%         15,368 368,832 20%         24,059 577,416 33%         28,260 678,240 85%

**September 2012-2014 (August 2012-2014 Production)** 

NOPA Territory	NOPA	NOPA Est.	Weighting	Estimated
NOPA TEITHOLY	Crush	Soybean Meal	vveigriting	Deliverable
	(1,000	Production		Supply in Tons
	bu)	(Tons)		(contracts)
AUGUST 2012	bu)	(10118)		(COITH acts)
Illinois	18,047	434,391	71%	308,418
IN, KY, OH, MI	26,789	644,811	83%	535,193
Southeast	12,999	312,886	20%	62,577
Southwest	24,574	591,496	33%	195,194
Iowa	30,331	730,067	85%	620,557
MN, ND, SD, MT	12,033	289,634	0%	0
ESTIMATED	12,033	207,034	0 70	1,721,939
DELIVERABLE				(17,219
SUPPLY 2012				Contracts)
3011 21 2012				OOM acts)
AUGUST 2013				
Illinois	13,134	315,216	71%	223,803
IN, KY, OH, MI	19,643	471,432	83%	391,289
Southeast	17,383	417,192	20%	83,438
Southwest	20,554	493,296	33%	162,788
Iowa	28,171	676,104	85%	574,688
MN, ND, SD, MT	11,617	278,808	0%	0
ESTIMATED				1,436,006
DELIVERABLE				(14,360
SUPPLY 2013				Contracts)
AUGUST 2014	T 40 0 4 5		T = 4.07	1000 / 55
Illinois	12,245	293,880	71%	208,655
IN, KY, OH, MI	23,833	571,992	83%	474,753
Southeast	15,223	365,352	20%	73,070
Southwest	20,029	480,696	33%	158,630
Iowa	26,828	643,872	85%	547,291
MN, ND, SD, MT	12,475	299,400	0%	0
ESTIMATED				1,462,399
DELIVERABLE				(14,624
SUPPLY 2014				Contracts)
CCTIMATED				4 5 40 445
ESTIMATED				1,540,115
DELIVERABLE				(15,401
SUPPLY 2012 -				Contracts)
2014				

October 2012-2014 (September 2012-2014 Production)

	· · · · · · · · · · · · · · · · · · ·	mber 2012-2014		
NOPA Territory	NOPA	NOPA Est.	Weighting	Estimated
	Crush	Soybean Meal		Deliverable
	(1,000	Production		Supply in Tons
	bu)	(Tons)		(contracts)
<b>SEPTEMBER 201</b>	2			
Illinois	13,579	322,365	71%	228,879
IN, KY, OH, MI	27,283	647,698	83%	537,590
Southeast	14,091	334,520	20%	66,904
Southwest	24,179	574,009	33%	189,423
Iowa	28,175	668,875	85%	568,543
MN, ND, SD, MT	12,426	294,993	0%	0
ESTIMATED				1,591,339
DELIVERABLE				(15,913
SUPPLY 2012				Contracts)
SEPTEMBER 201	3	·		·
Illinois	11,103	266,472	71%	189,195
IN, KY, OH, MI	24,923	598,152	83%	496,466
Southeast	15,980	383,520	20%	76,704
Southwest	19,461	467,064	33%	154,131
Iowa	26,349	632,376	85%	537,520
MN, ND, SD, MT	10,862	260,688	0%	0
ESTIMATED				1,454,016
<b>DELIVERABLE</b>				(14,540
<b>SUPPLY 2013</b>				Contracts)
SEPTEMBER 201	4	•	•	
Illinois	11,799	283,176	71%	201,055
IN, KY, OH, MI	25,320	607,680	83%	504,374
Southeast	12,038	288,912	20%	57,782
Southwest	18,283	438,792	33%	144,801
Iowa	20,775	498,600	85%	423,810
MN, ND, SD, MT	11,754	282,096	0%	0
ESTIMATED				1,331,823
<b>DELIVERABLE</b>				(13,318
SUPPLY 2014				Contracts)
ESTIMATED				1,459,059
<b>DELIVERABLE</b>				(14,591
SUPPLY 2012 -				Contracts)
2014				

December 2012-2014 (November 2012-2014 Production)

	<u> </u>	/ember 2012-20		Tev
NOPA Territory	NOPA	NOPA Est.	Weighting	Estimated
	Crush	Soybean Meal		Deliverable
	(1,000	Production		Supply in Tons
	bu)	(Tons)		(contracts)
NOVEMBER 2012		ı		
Illinois	19,411	462,370	71%	328,283
IN, KY, OH, MI	35,783	852,351	83%	707,451
Southeast	21,694	516,751	20%	103,350
Southwest	31,442	748,948	33%	247,153
Iowa	34,775	828,341	85%	704,089
MN, ND, SD, MT	14,203	338,315	0%	0
ESTIMATED				2,090,326
DELIVERABLE				(20,903
SUPPLY 2012				Contracts)
NOVEMBER 2013	3	•	•	•
Illinois	20,069	481,656	71%	341,976
IN, KY, OH, MI	35,827	859,848	83%	713,674
Southeast	22,300	535,200	20%	107,040
Southwest	31,985	767,640	33%	253,321
Iowa	35,601	854,424	85%	726,260
MN, ND, SD, MT	14,363	344,712	0%	0
ESTIMATED	,			2,142,271
DELIVERABLE				(21,423
SUPPLY 2013				Contracts)
NOVEMBER 2014	i	1		<u> </u>
Illinois	19,621	470,904	71%	334,342
IN, KY, OH, MI	36,483	875,592	83%	726,741
Southeast	20,909	501,816	20%	100,363
Southwest	32,543	781,032	33%	257,741
Iowa	35,779	858,696	85%	729,892
MN, ND, SD, MT	15,877	381,048	0%	0
ESTIMATED	15,677	301,040	0 /0	2,149,079
DELIVERABLE				1 -
				(21,491
SUPPLY 2014				Contracts)
FCTIMATED	<u> </u>			2 427 225
ESTIMATED				2,127,225
DELIVERABLE				(21,272
SUPPLY 2012 -				Contracts)
2014				

As the tables above show, the average estimated deliverable supply from 2012 through 2014 in CBOT Soybean Meal was 1,755,553 tons (17,556 contracts). The smallest estimated deliverable supply was October with 1,459,059 tons (14,591 contracts).

Not all NOPA member crush data would meet CBOT Soybean Meal futures specifications. Unfortunately, NOPA does not distinguish among quality attributes in its monthly statistics. Thus, the Exchange does not try to account for stocks that may not meet Exchange quality specifications. However, this is likely a very conservative estimate because although stocks not meeting specifications are not subtracted, none of the significant stocks produced by NOPA member processing plants outside the futures delivery territory are counted. Virtually all of the NOPA member firms are also CBOT Soybean Meal regular firms, and soybean meal produced outside the CBOT delivery area could be moved into delivery position from a particular firm's non-regular NOPA plant to another of that firm's CBOT regular plants. Additionally, this analysis does not account for soybean meal in store, which is not available in the NOPA data.

Twenty-five percent of the average estimated deliverable supply (17,556 contracts) is 4,389 contracts and 25 percent of the smallest estimated monthly deliverable supply (14,591 contracts) is 3,648 contracts. The spot-month position limit in Soybean Meal futures is 720 contracts.

### Soybean Oil Deliverable Supply

### Background:

Soybean oil is a bi-product created from crushing soybeans and is a widely consumed vegetable oil and is also used extensively in the production of ink and paint. The USDA estimates 2013/14 soybean oil production at 9.560 million tons, a 0.8 percent increase from 2012/13.

#### **Delivery Capacity:**

Most soybean oil produced in U.S. soybean processing facilities is eligible for delivery on CBOT Soybean Oil futures contracts. The Soybean Oil futures contract requires delivered crude soybean oil to meet the following specifications:

- (a) It shall be one of the following types: Expeller pressed, expeller pressed degummed, solvent extracted, or solvent extracted degummed. Mixtures of one type with any other is not deliverable;
- (b) It shall contain no more than 0.3% moisture and volatile content;
- (c) It shall be lighter in green color than Standard "A" and when refined and bleached shall produce a refined and bleached oil of not deeper color than 3.5 red on the Lovibond scale;
- (d) It shall refine with a loss not exceeding 5% as determined by the "neutral oil" method;
- (e) It shall have a flash point not below 250 degrees Fahrenheit, closed cup method;
- (f) It shall contain no more than 1.5% unsaponifiable matter (exclusive of moisture and volatile matter).

No lower grades are deliverable. Higher grades may be delivered at contract price except when the refining loss is less than 5% as determined by the "neutral oil" method, a premium of one percent of the cash market price at the time of loading is paid for each one percent under the 5% loss (fractions figured throughout) with a maximum credit of 4%%.

When a bushel of soybeans weighing 60 pounds is crushed, the conventional result is 11 pounds of soybean oil, 44 pounds of 48% protein soybean meal, 4 pounds of hulls, and 1 pound of waste.

The Soybean Oil futures contract has six delivery territories consisting of:

- (a) Illinois Territory (That portion of the state of Illinois north of latitude 38°00' N.)
- (b) Eastern Territory (Those portions of the states of Indiana and Kentucky west of the Ohio-Indiana border and its extension and north of latitude 38°00'N.)

- (c) Eastern Iowa Territory (That portion of the state of Iowa east of longitude 93°50'W.)
- (d) Southwest Territory (Those portions of the states of Missouri and Kansas north of latitude 38°00'N. and east of longitude 97°00'W.)
- (e) Western Territory (Those portions of the states of Iowa west of longitude 93°50′W., and Nebraska east of longitude 97°00′W.)
- (f) Northern Territory (Those portions of the states of Minnesota south of latitude 45°10′N., and South Dakota south of latitude 45°10′N., and east of 97°00′W.)

Soybean oil is a very storable commodity, and the amount of soybean oil the Exchange allows registered delivery facilities to deliver (regular capacity) is based on the lesser of each facility's approved storage space or 20 times their registered daily rate for loading jumbo tank cars. Below are the facilities regular for delivery on CBOT Soybean Oil futures and the maximum number of warehouse receipts each facility may deliver:

FIRM/FACILITIES	REGULAR SPACE (POUNDS)	MAXIMUM WAREHOUSE RECEIPTS ALLOWED TO ISSUE
AG PROCESSING,		
INCORPORATED		
Dawson, MN	24,000,000	400
Eagle Grove, IA	20,000,000	333
Emmetsburg, IA	88,000,000	1,466
Manning, IA	9,000,000	150
Mason City, IA	36,000,000	600
Omaha, NE	40,000,000	666
Sergeant Bluff, IA	21,000,000	350
Sheldon, IA	19,200,000	320
St. Joseph, MO	24,000,000	400
ARCHER DANIELS MIDLAND CO		
Decatur, IL	118,400,000	1,973
Des Moines, IA	41,750,000	695
Frankfurt, IN	25,900,000	431
Galesburg, IL	11,400,000	190
Lincoln, NE	37,200,000	620
Mexico, MO	29,600,000	493
Quincy, IL	37,000,000	600
BUNGE MILLING, INC.		
Danville, IL	91,500,000	1,016
BUNGE NORTH AMERICA		
(EAST), LLC		
Decatur, IN	118,950,000	1,333
BUNGE NORTH AMERICA (ODP WEST), INC		
Emporia, KS	36,600,000	416
CARGILL, INC.		
Ackley, IA	240,000,000	3,453
Bloomington, IL	3,900,000	65

Buffalo, IA	36,800,000	370
Cedar Rapids, IA	1,920,000	32
Cedar Rapids, (E), IA	9,300,000	155
Des Moines, IA	7,700,000	128
Iowa Falls, IA	20,000,000	233
Kansas City, MO	10,364,000	172
Lafayette, IN	9,000,000	150
Creve Coeur, IL	16,000,000	266
CHS Inc.		
Mankato, MN	6,000,000	100
INCOBRASA INDUSTRIES,		
LLC		
Gilman, IL	69,000,000	1,110
LOUIS DREYFUS CLAYPOOL		
HOLDINGS, LLC		
Claypool, IN	30,000,000	370
MINNESOTA SOYBEAN		
PROCESSORS		
Brewster, MN	29,600,000	493
SOLAE LLC		
Gibson City, IL	48,100,000	800
SOUTH DAKOTA SOYBEAN		
PROCESSORS, LLC		
Volga, SD	200,700,000	3,316
ZEELAND FARM SERVICES,		
INC		
Portage, IN	21,000,000	350
TOTALS	1,588,884,000	24,015

As of January 2015, the CBOT Soybean Oil futures contract has over 1.589 billion pounds of approved regular storage capacity and firms may deliver up to 24,015 warehouse receipts.

#### **Deliverable Supply:**

The U.S. Census Bureau collected and the USDA published monthly soybean oil production estimates for the U.S. until September 2011 when the *Oilseed Crushings* report was discontinued. The National Oilseed Processors Association (NOPA) continues to publish monthly soybean oil production and storage for its member firms. A list of processing plants included in the NOPA Statistical crush report is available here:

http://www.nopa.org/content/oilseed/NOPA%20Plants%20-%20Location%20by%20State%20 %20June%202013.pdf

Also, here is the link to the NOPA monthly statistical crush report on Thomson Reuters:

http://commoditiesupdates.thomsonreuters.com/nopa/

NOPA reports soybean oil production and stocks for 62 processing plants. Of these 62 plants, 25 of them are regular for delivering on Soybean Oil futures and there are 11 plants that are regular for futures delivery but not part of the NOPA Statistical crush report.

NOPA production and stocks reports are broken down into the following six regions:

- Illinois
- Indiana, Kentucky, Ohio, Michigan
- Southeast
- Southwest
- Lowa
- Minnesota, North Dakota, South Dakota, Montana

NOPA Territory	Number of NOPA Reporting Plants	Number of NOPA Plants that are Regular for Delivery	Percentage of NOPA Plants that are Regular for Delivery
Illinois	7	4	57%
Indiana, Kentucky, Ohio, Michigan	12	4	33%
Southeast	10	0	0%
Southwest	12	5	42%
Iowa	13	10	77%
Minnesota, North Dakota, South Dakota, Montana	8	2	25%
TOTAL	62	25	40%

Deliverable supply is estimated based on NOPA reported soybean oil stocks in each of their territories during the month prior to each futures contract delivery. These values are then weighted by the percentage of NOPA member processing plants that are also regular for delivery on CBOT Soybean Oil futures to estimate futures deliverable supply.

January 2012-2014 (December 2011-2013 Stocks)

		1ber 2011-2013	•
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
DECEMBER 2011			
Illinois	377,172	57%	214,988
IN, KY, OH, MI	276,244	33%	91,161
Southeast	129,045	0%	0
Southwest	371,210	42%	155,908
Iowa	714,190	77%	549,926
MN, ND, SD, MT	70,170	25%	17,543
ESTIMATED			1,029,526
DELIVERABLE			(17,158
SUPPLY 2011			Contracts)
DECEMBER 2012			
Illinois	411,946	57%	234,809
IN, KY, OH, MI	537,963	33%	177,528
Southeast	127,513	0%	0
Southwest	581,367	42%	244,174
Iowa	818,841	77%	630,508
MN, ND, SD, MT	122,574	25%	30,644
ESTIMATED			1,317,662
DELIVERABLE			(21,961
SUPPLY 2012			Contracts)
DECEMBER 2013			
Illinois	332,242	57%	189,378
IN, KY, OH, MI	285,099	33%	94,083
Southeast	142,719	0%	0
Southwest	419,534	42%	176,204
Iowa	441,224	77%	339,742
MN, ND, SD, MT	60,406	25%	15,102
ESTIMATED			814,509
DELIVERABLE			(13,575
SUPPLY 2013			Contracts)
ESTIMATED			1,053,899
DELIVERABLE			(17,565
SUPPLY 2011 -			Contracts)
2013			

March 2012-2014 (February 2012-2014 Stocks)

Warch 2012-201	_ `		<u> </u>
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
FEBRUARY 2012		·	
Illinois	437,615	57%	249,441
IN, KY, OH, MI	371,147	33%	122,479
Southeast	125,906	0%	0
Southwest	445,762	42%	187,220
Iowa	776,028	77%	597,542
MN, ND, SD, MT	85,800	25%	21,450
ESTIMATED			1,178,131
DELIVERABLE			(19,635
SUPPLY 2012			Contracts)
FEBRUARY 2013			
Illinois	487,119	57%	277,658
IN, KY, OH, MI	589,768	33%	194,623
Southeast	170,321	0%	0
Southwest	535,170	42%	224,771
Iowa	879,496	77%	677,212
MN, ND, SD, MT	128,178	25%	32,045
ESTIMATED			1,406,309
DELIVERABLE			(23,438
SUPPLY 2013			Contracts)
FEBRUARY 2014			
Illinois	435,156	57%	248,039
IN, KY, OH, MI	379,623	33%	125,276
Southeast	99,712	0%	0
Southwest	330,656	42%	138,876
Iowa	573,937	77%	441,931
MN, ND, SD, MT	73,860	25%	18,465
ESTIMATED			972,587
DELIVERABLE			(16,210
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			1,185,676
SUPPLY 2012 -			(19,761
2014			Contracts)

May 2012-2014 (April 2012-2014 Stocks)

May 2012-2014			T1
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
<b>APRIL 2012</b>			
Illinois	446,935	57%	254,753
IN, KY, OH, MI	463,232	33%	152,867
Southeast	154,902	0%	0
Southwest	455,468	42%	191,297
Iowa	778,338	77%	599,320
MN, ND, SD, MT	86,417	25%	21,604
ESTIMATED			1,219,841
DELIVERABLE			(20,330
SUPPLY 2012			Contracts)
APRIL 2013			
Illinois	448,539	57%	255,667
IN, KY, OH, MI	575,081	33%	189,777
Southeast	155,943	0%	0
Southwest	514,832	42%	216,229
Iowa	833,562	77%	641,843
MN, ND, SD, MT	109,678	25%	27,420
ESTIMATED			1,330,936
DELIVERABLE			(22,182
SUPPLY 2013			Contracts)
<b>APRIL 2014</b>			
Illinois	425,678	57%	242,636
IN, KY, OH, MI	392,352	33%	129,476
Southeast	106,457	0%	0
Southwest	366,465	42%	153,915
Iowa	698,538	77%	537,874
MN, ND, SD, MT	68,146	25%	17,037
ESTIMATED			1,080,939
DELIVERABLE			(18,016
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			1,210,572
SUPPLY 2012 -			(20,176
2014			Contracts)

July 2012-2014 (June 2012-2014 Stocks)

July 2012-2014	ľ	· · · · · · · · · · · · · · · · · · ·	
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
JUNE 2012			
Illinois	396,859	57%	226,210
IN, KY, OH, MI	457,460	33%	150,962
Southeast	129,522	0%	0
Southwest	492,960	42%	207,043
Iowa	765,252	77%	589,244
MN, ND, SD, MT	64,076	25%	16,019
ESTIMATED			1,189,478
<b>DELIVERABLE</b>			(19,824
SUPPLY 2012			Contracts)
JUNE 2013			
Illinois	430,070	57%	245,140
IN, KY, OH, MI	489,784	33%	161,629
Southeast	134,964	0%	0
Southwest	456,869	42%	191,885
Iowa	682,521	77%	525,541
MN, ND, SD, MT	103,434	25%	25,859
ESTIMATED			1,150,053
DELIVERABLE			(19,168
SUPPLY 2013			Contracts)
JUNE 2014			
Illinois	363,139	57%	206,989
IN, KY, OH, MI	296,476	33%	97,837
Southeast	164,946	0%	0
Southwest	318,405	42%	133,730
Iowa	632,937	77%	487,361
MN, ND, SD, MT	71,139	25%	17,785
ESTIMATED			943,703
DELIVERABLE			(15,728
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			1,094,411
SUPPLY 2012 -			(18,240
2014			Contracts)

August 2012-2014 (July 2012-2014 Stocks)

August 2012-20	14 (July 20	12-2014 Stocks	)
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
JULY 2012			
Illinois	391,733	57%	223,288
IN, KY, OH, MI	453,501	33%	149,655
Southeast	135,135	0%	0
Southwest	509,150	42%	213,843
Iowa	772,652	77%	594,942
MN, ND, SD, MT	83,056	25%	20,764
ESTIMATED			1,202,492
DELIVERABLE			(20,041
SUPPLY 2012			Contracts)
JULY 2013	•	•	•
Illinois	389,192	57%	221,839
IN, KY, OH, MI	435,798	33%	143,813
Southeast	162,113	0%	0
Southwest	407,466	42%	171,136
Iowa	567,512	77%	436,984
MN, ND, SD, MT	87,816	25%	21,954
ESTIMATED			995,727
DELIVERABLE			(16,595
SUPPLY 2013			Contracts)
JULY 2014			
Illinois	324,621	57%	185,034
IN, KY, OH, MI	264,585	33%	87,313
Southeast	130,215	0%	0
Southwest	251,624	42%	105,682
Iowa	559,772	77%	431,024
MN, ND, SD, MT	58,262	25%	14,566
ESTIMATED			823,619
DELIVERABLE			(13,727
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			1,007,279
SUPPLY 2012 -			(16,788
2014			Contracts)

September 2012-2014 (August 2012-2014 Stocks)

September 2012	-2014 (Aug	just 2012-2014	Stocks)
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
AUGUST 2012			
Illinois	383,709	57%	218,714
IN, KY, OH, MI	418,788	33%	138,200
Southeast	118,393	0%	0
Southwest	435,977	42%	183,110
Iowa	739,645	77%	569,527
MN, ND, SD, MT	71,966	25%	17,992
ESTIMATED			1,127,543
DELIVERABLE			(18,792
SUPPLY 2012			Contracts)
AUGUST 2013			
Illinois	334,786	57%	190,828
IN, KY, OH, MI	332,386	33%	109,687
Southeast	154,372	0%	0
Southwest	319,352	42%	134,128
Iowa	465,308	77%	358,287
MN, ND, SD, MT	62,335	25%	15,584
ESTIMATED			808,514
DELIVERABLE			(13,475
SUPPLY 2013			Contracts)
AUGUST 2014			
Illinois	229,669	57%	130,911
IN, KY, OH, MI	233,120	33%	76,930
Southeast	114,000	0%	0
Southwest	187,793	42%	78,873
Iowa	398,150	77%	306,576
MN, ND, SD, MT	50,771	25%	12,693
ESTIMATED			605,982
DELIVERABLE			(10,100
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			847,346
1 _		1	(14 122
SUPPLY 2012 -			(14,122 Contracts)

October 2012-2014 (September 2012-2014 Stocks)

October 2012-20			<del></del>
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
SEPTEMBER 201			
Illinois	377,797	57%	215,344
IN, KY, OH, MI	385,634	33%	127,259
Southeast	163,388	0%	0
Southwest	361,971	42%	152,028
Iowa	703,649	77%	541,810
MN, ND, SD, MT	50,553	25%	12,638
ESTIMATED			1,049,079
<b>DELIVERABLE</b>			(17,484
SUPPLY 2012			Contracts)
SEPTEMBER 201	3		
Illinois	281,034	57%	160,189
IN, KY, OH, MI	267,395	33%	88,240
Southeast	143,481	0%	0
Southwest	269,390	42%	113,144
Iowa	370,551	77%	285,324
MN, ND, SD, MT	40,431	25%	10,108
ESTIMATED			657,006
DELIVERABLE			(10,950
SUPPLY 2013			Contracts)
SEPTEMBER 201	4		T
Illinois	211,000	57%	120,270
IN, KY, OH, MI	165,143	33%	54,497
Southeast	86,241	0%	0
Southwest	193,330	42%	81,199
Iowa	251,985	77%	194,028
MN, ND, SD, MT	29,181	25%	7,295
ESTIMATED			457,289
DELIVERABLE			(7,621
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			721,125
SUPPLY 2012 -			(12,019
2014			Contracts)

## December 2012-2014 (November 2012-2014 Stocks)

December 2012-	1		1
NOPA Territory	NOPA	Weighting	Estimated
	Stocks		Deliverable
	(1,000		Supply in
	lbs)		(1,000 lbs)
NOVEMBER 2012	2		
Illinois	405,639	57%	231,214
IN, KY, OH, MI	471,274	33%	155,520
Southeast	135,638	0%	0
Southwest	509,811	42%	214,121
Iowa	756,886	77%	582,802
MN, ND, SD, MT	105,508	25%	26,377
ESTIMATED			1,210,034
<b>DELIVERABLE</b>			(20,167
SUPPLY 2012			Contracts)
NOVEMBER 2013	3		
Illinois	302,015	57%	172,149
IN, KY, OH, MI	242,334	33%	79,970
Southeast	120,423	0%	0
Southwest	382,642	42%	160,710
Iowa	389,819	77%	300,161
MN, ND, SD, MT	48,380	25%	12,095
ESTIMATED			725,084
DELIVERABLE			(12,085
SUPPLY 2013			Contracts)
NOVEMBER 2014	ļ		
Illinois	210,373	57%	119,913
IN, KY, OH, MI	147,789	33%	48,770
Southeast	106,625	0%	0
Southwest	274,655	42%	115,355
Iowa	226,736	77%	174,587
MN, ND, SD, MT	38,404	25%	9,601
ESTIMATED			468,226
DELIVERABLE			(7,804
SUPPLY 2014			Contracts)
ESTIMATED			
DELIVERABLE			801,115
SUPPLY 2012 -			(13,352
2014			Contracts)

As the tables above show, the average estimated deliverable supply from 2012 through 2014 in CBOT Soybean Oil was over 990 million pounds (16,503 contract equivalents). The October contract had the lowest estimated deliverable supply at 721 million pounds (12,019 contract equivalents).

Most although not all NOPA member soybean oil stocks data would meet CBOT Soybean Oil futures specifications. Unfortunately, NOPA does not distinguish among quality attributes in its monthly statistics. Thus, the Exchange does not try to account for stocks that may not meet Exchange quality specifications. However, this is likely a very conservative estimate because although stocks not meeting specifications are not subtracted, none of the significant stocks produced by NOPA member processing plants outside the futures delivery territory are counted. Virtually all of the NOPA member firms are also CBOT Soybean Oil regular firms, and soybean oil produced outside the CBOT delivery area could be moved into delivery position from a particular firm's non-regular NOPA plant to another of that firm's CBOT regular plants. Additionally, this analysis does not account for the 11 facilities regular for delivery on CBOT Soybean Oil futures that are not NOPA members and not reported in the NOPA Crush statistical report.

Twenty-five percent of the average estimated deliverable supply (16,503 contracts) is 4,126 contracts and 25 percent of the smallest estimated monthly deliverable supply (12,019 contracts) is 3,005 contracts. The spot-month position limit in Soybean Oil futures is 540 contracts.

# **Deliverable Supply Analysis**

#### **New York Harbor ULSD**

The New York Mercantile Exchange, Inc. ("NYMEX" or "Exchange") has undertaken an analysis of deliverable supply for its New York Harbor ULSD Futures Contract ("HO Contract") in connection with efforts to ensure that the deliverable supply estimate reflects current market realities.

The Exchange's estimate of Ultra-Low Sulfur Diesel (ULSD) deliverable supply to the New York Harbor delivery area is based on four key components: refinery production, net foreign imports/exports, net pipeline receipts, and storage levels. As part of this analysis, the Exchange is including estimated pipeline flows from the U.S. Gulf Coast refining region to the Northeast, based on data provided by the U.S. Energy Information Administration (EIA).

The Exchange estimates the monthly deliverable supply of ULSD to the New York Harbor (NYH) to be approximately 23.5 million barrels, which is equivalent to 23,500 contracts per month. Given the CFTC spot month position limit guideline of not exceeding 25% of the available monthly supply, the deliverable supply of New York Harbor ULSD would support a spot month position limit of up to 5,800 contract equivalents. The current spot month position limit for the NYMEX New York Harbor ULSD Futures Contract is 1,000 contracts, which is about 4.26% of the monthly deliverable supply.

# Introduction

Ultra-Low Sulfur Diesel (ULSD) is a distillate fuel that has a dual-use as heating oil and as a transportation fuel. As of December 1, 2010, all on-highway diesel fuel consumed in the United States is ULSD as mandated by federal regulations. Unlike diesel fuel used in transportation, heating oil has no federal sulfur content restrictions. However, various State initiatives to apply comparable sulfur limits to heating oil are in planning or implementation stages in the Northeast, the main heating oil consuming region.

According to the EIA, New England and the Central Atlantic Coast of the United States (collectively known as the "Northeast" for data purposes) are the main consumers of heating oil, typically accounting for 80% of the sales. As of July 1, 2012 the New York State mandated that all heating oil sold for residential, commercial and industrial heating applications within the State contain no more than 15 parts per million (ppm) of sulfur. Following New York's footsteps, New Jersey intends to gradually transition to 15ppm sulfur content in 2016. Furthermore by 2018 Vermont, Massachusetts and Maine plan to transition to ULSD for heating purposes. Figure 1 below lists all changes to Heating Oil as of July-2014.

Schedule for maximum sulfur content of heating oil in the Northeast by year parts per million (ppm) 2,000 - 15,000 ppm New York 15 ppm New Jersey 2,000 - 3,000 ppm 500 ppm 15 ppm Connecticut 3,000 ppm 500 ppm 500 ppm Massachusetts 3,000 ppm 15 ppm Rhode Island 5,000 ppm 500 ppm 15 ppm 20,000 ppm Vermont 500 ppm 3,000 - 10,000 ppm Delaware 15 ppm Maine 3,000 - 5,000 ppm 50 ppm 2,000 - 5,000 ppm Pennsylvania\* 500 ppm 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020

Figure 1 - Heating Oil Sulfur Specification Changes per State<sup>1</sup>

The New York Harbor ULSD Futures contract is the main benchmark used for pricing the distillate products market, which includes diesel fuel, heating oil, and jet fuel. The Exchange has amended the grade and quality specifications in response to changes in environmental regulations in the Northeast, requiring cleaner, lower sulfur diesel standards for heating oil. Effective beginning with the May-2013 delivery month, the New York Harbor ULSD Futures contract required delivery of on-road ULSD with a maximum of 15ppm sulfur content.

<sup>&</sup>lt;sup>1</sup> http://www.eia.gov/forecasts/steo/special/winter/2014 winter fuels.pdf

After transitioning to lower sulfur grade in May-2013, the NYMEX New York Harbor ULSD Futures serves as a dual-use contract that is a price reference and hedging instrument for both the heating oil and on-road diesel markets. The heating oil pool will eventually be fully integrated into the ULSD market and the widespread adoption of a 15ppm sulfur content limit for heating oil is likely to encourage the development of a seamless ULSD distillate market throughout the entire East Coast, according to the EIA. Consequently, due to the phase-out of high-sulfur heating oil delivery specifications, the Exchange has focused its deliverable supply analysis on the ULSD sector of the distillate fuel market.

### New York Harbor Delivery Region

New England and the Central Atlantic Coast of the United States, collectively defined by the EIA as the "Northeast", is a well-connected and integrated geographical region in terms of oil and products infrastructure. The region is part of the larger PADD 1 (Petroleum Administration Defense District), and more specifically defined by PADD 1A and PADD1B, which includes: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, Delaware, District of Columbia, Maryland, New Jersey, New York, and Pennsylvania<sup>2</sup>.

Located in both New York and New Jersey, the New York Harbor area is the largest oil importing and third largest container port in the nation, and is the main oil and refined products pricing and trading hub. Petroleum products in New York Harbor are supplied by refineries located in New Jersey, Delaware and Pennsylvania, all located within 100 miles of the New York Harbor area. East Coast refineries, a majority of which are located in New Jersey and Philadelphia, send products by local pipelines into New York Harbor.

Many of the petroleum products delivered to New York Harbor are redistributed to smaller ports where they supply local demand. In particular, the Hudson River, which meets the Atlantic Ocean in New York Harbor, provides a major inland water route for petroleum product barges supplying eastern New York and parts of western New England. Significant volumes are shipped to New England via barge from New York Harbor. On the other side of the State,

<sup>&</sup>lt;sup>2</sup>http://www.eia.gov/analysis/petroleum/nerefining/prelim/

western New York product markets are primarily supplied from Canada at the Port of Buffalo, and via the Buckeye and Sunoco pipeline systems from Pennsylvania and the Midwest<sup>3</sup>.

The Colonial Pipeline is the largest refined products pipeline in the US and a key products supply link for the Northeast. The pipeline connects the Northeast to refinery output from the US Gulf Coast and foreign imports, principally from Canada, Virgin Islands, Caribbean and Europe. Colonial's network of pipelines crosses 13 states, serving more than 265 marketing terminals in the Southern and Eastern United States. The pipeline provides a link from the US Gulf Coast to the New York Harbor area through the south and across the Eastern seaboard. It generally takes from 14 to 24 days for a product batch on the Colonial Pipeline to get from Houston, Texas to the New York Harbor, with 18.5 days the average time. The Trainer, Marcus Hook and Philadelphia refineries are strategically located along the pipeline.

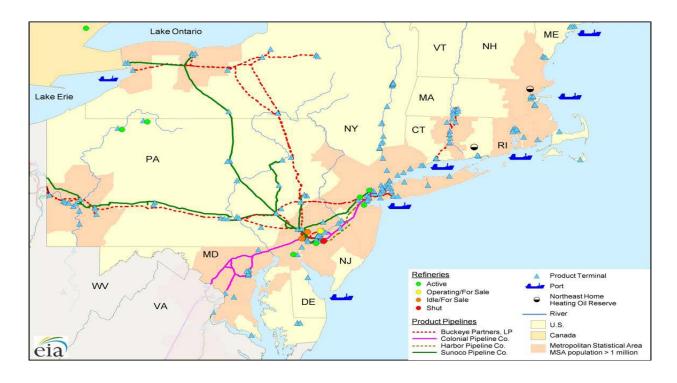


Figure 2 - Northeast Refined Products Market Logistics4

<sup>&</sup>lt;sup>3</sup> http://205.254.135.7/state/state-energy-profiles-analysis.cfm?sid=NY

<sup>&</sup>lt;sup>4</sup> Source: EIA, http://www.eia.gov/analysis/petroleum/nerefining/update/pdf/neprodmkts.pdf

Earlier in 2011, Colonial expanded the northern end of its Houston-to-New York system, adding 100,000 barrels per day (b/d) of capacity. In addition, the company completed a series of system upgrades leading to more than 100,000 b/d of capacity for distillates<sup>5</sup> specifically serving the New Jersey, Pennsylvania, and New York markets. Also, Colonial Pipeline added an additional 100,000 b/d of gasoline and distillates capacity in early 2013<sup>6</sup> to meet demand in on the northern portion of the line (Greensboro, NC to Linden, NJ).

As of January 1, 2014, there were 139 operating refineries and three idle refineries with total atmospheric crude oil distillation capacity of 17.9 million b/d, a 101,000 b/d increase in capacity from January 1, 2013<sup>7</sup>. As of January 1, 2014, the East Coast (PADD 1) had 10 operable refineries, 9 of which are currently operating, with 1.1 million b/d of atmospheric crude distillation capacity. The region has 475,800 b/d of fluid catalytic cracking (FCC) capacity. PADD 1 includes all states in New England, the Mid-Atlantic, and the South Atlantic and is subdivided into three sub-PADDs.

- PADD 1A New Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut
- PADD 1B New York, Pennsylvania, New Jersey, Delaware, Maryland, Washington DC
- PADD 1C West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida

Supply dynamics for each of the three sub-PADDs vary. PADD 1A, New England, has no refineries and relies on imports and transfers from other PADDs, primarily PADD 1B. PADD 1C, the South Atlantic, also has no operating refineries and relies primarily on pipeline transfers and marine shipments from PADD 3 and imports. PADD 1B is supplied by a combination of in-region refineries, transfers from other PADDs, primarily from PADD 3, and imports<sup>8</sup>.

The majority of PADD 1B refineries are located in New Jersey, Delaware and Pennsylvania, and within 100 miles of the New York Harbor area. These refineries are directly connected to the

http://www.eia.gov/todayinenergy/detail.cfm?id=16911

<sup>&</sup>lt;sup>5</sup> http://www.eia.gov/pressroom/presentations/sieminski 10102012.pdf

<sup>&</sup>lt;sup>6</sup> http://www.colpipe.com/press\_release/pr\_114.asp

<sup>8</sup> http://www.eia.gov/petroleum/refinery/outage/pdf/refinery\_outage.pdf

New York Harbor market by local pipelines and/or waterborne barges. In 2013, production from refineries in PADD 1B supplied 48% and 73% of the region's gasoline and distillate needs, respectively, according to the EIA. A list of Northeast refineries is provided in Table 1.

Table 1 - Mid-Atlantic (PADD 1B) Refineries

Name	State	Owner	Capacity	Status
Port Reading	NJ	Hess	70,000 b/d	CLOSED
Marcus Hook	PA	Sunoco Logistics	178,000 b/d	CLOSED. Being converted to NGL
				storage.
Delaware City Refinery	DE	PBF Energy	182,200 b/d	Operational
Perth Amboy	NJ	Buckeye Partners	80,000 b/d	Operational
			(Asphalt only)	
Bayway Refinery	NJ	Phillips 66	238,000 b/d	Operational
		Company		
Paulsboro	NJ	Nustar Asphalt	70,000 b/d	Operational
Asphalt		Refining	(Asphalt only)	
Paulsboro	NJ	PBF Energy LLC	160,000 b/d	Operational
Refining				
Bradford	PA	American Refining Group	11,000 b/d	Operational
Philadelphia	PA	Philadelphia Energy	335,000 b/d	Operational
		Solutions/Carlyle		
		Group		
Warren	PA	United Refining Inc.	65,000 b/d	Operational
Trainer	PA	Monroe Energy	185,000 b/d	Operational
		LLC/Delta Airlines		

# Methodology: Key Components of Deliverable Supply

In estimating deliverable supply for the New York Harbor ULSD Contract, the Exchange relied on Commission long-standing precedent, which prescribes that key components of deliverable supply is estimated based on production and supply levels that could reasonably be considered readily 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

Accordingly, there are four key components that the Exchange took into account when updating the deliverable supply estimates of the New York Harbor ULSD Futures contract:

- A. Refinery production;
- B. Net import flows to the delivery area;
- C. Pipeline/barge flows from PADD 3 to the delivery area;
- D. Storage levels in the delivery area.

The main source of data for the cash market analysis is the US Energy Information Administration (EIA), which provides detailed data on the key components of deliverable supply. The EIA provides data on a weekly, monthly, and annual basis.

# A. Refinery Production and Net Imports

According to EIA data from 2012-2014, and as presented in Table 2 below, the three-year average of refinery ULSD production in PADD 1 was 264,000 barrels per day, or 7.9 million barrels per month.

Table 2 - PADD 1 Production, Imports, and Exports

ULSD (<15 ppm Sulfur), Thousand b/d	2012	2013	2014	Average
(Annual Averages using Weekly Data, except for Exports which use Monthly Data)				
Refinery and Blender Net Production <sup>9</sup>	230	276	286	264
Imports <sup>10</sup>	69	83	86	79
Exports <sup>11</sup>	29	61	33	41
Net Imports	40	22	53	38
Total (Production+Net Imports)	270	298	339	302

A majority of ULSD imports into PADD 1 arrive in the New York Harbor area, the largest oil import hub in the US. According to the EIA's Northeast Refining Study<sup>12</sup>, approximately 65% of PADD 1 imports occur in the New York Harbor area. The three-year average for net ULSD imports into PADD 1 is 38,000 b/d (Table 2), and the estimate for the Northeast region specifically –assuming a conservative 65% ratio— net imports is approximately 25,000 b/d.

# B. Pipeline Flows and Net Receipts

Nearly all pipeline and barge ULSD shipments into PADD 1 originate in the Gulf Coast. While the EIA provides weekly data on PADD 1 ULSD barge and pipeline receipts (See Table 3 below), it does not provide specific flow data by Colonial Pipeline delivery point or port of entry. However, according to the EIA's Northeast Refining Study, approximately 45% of PADD 1's receipts from PADD 3 end up in the Northeast. This estimate amounts to approximately 320,000 b/d (45% of 712,000 b/d) of ULSD flowing to the New York Harbor region from PADD 3.

<sup>&</sup>lt;sup>9</sup> EIA, Annual averages based on weekly data, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOTP\_R10\_2&f=W

<sup>&</sup>lt;sup>10</sup> EIA, Annual averages based on weekly data, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WD0IM R10-Z00 2&f=W

<sup>&</sup>lt;sup>11</sup> EIA, Annual averages based on monthly data, <a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M</a> EPDXL0 EEX R10-700 MBBI D&f=M

http://www.eia.gov/analysis/petroleum/nerefining/update/pdf/neprodmkts.pdf

**Table 3 - Shipments of ULSD from PADD 3** 

Shipments by Pipeline, Tanker, and Barge, Thousand b/d (Annual Averages using Monthly Data)	2012	2013	2014	Average
PADD 3 Shipments 13 to PADD 1	659	746	730	712

## C. Inventories of ULSD in the New York Harbor Market

New York Harbor has a petroleum bulk terminal storage capacity of over 75 million barrels, making it the largest petroleum product hub in the country. IMTT or the International-Matex Tank Terminals is a privately-held storage and handling company, and holds about one third of storage market share in New York Harbor. The IMTT terminal in Bayonne, New Jersey has 620 tanks, 16 million barrels total capacity ranging in size from 5,000 gallons through 250,000 barrels. The IMTT terminal holds 5-8 million barrels of distillate fuels in storage according to market sources.

In addition to commercial stocks held in New York Harbor terminals, the Northeast Heating Oil Reserve, which was established in 2000 to provide heating fuel supply security in the Northeast, is stored in three terminals in the NYH area: Perth Amboy, New Jersey, and New Haven and Groton, Connecticut. The storage terminal located at Perth Amboy is the largest of the three, with a capacity of almost 1 million barrels.

The three-year average of ULSD stocks held in the Central Atlantic, or PADD 1B, region is approximately 12 million barrels (See Table 4). According to market participants, the New York Harbor area, which includes storage terminals in New York and New Jersey, accounts for 50% to 60% of the inventories reported in EIA's PADD 1B statistics. Using a conservative estimate of 50% of PADD 1B inventories, the average stock level of ULSD is estimated to be approximately 6.0 million barrels in New York Harbor.

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<sup>13</sup> http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MD0MX\_R10R30\_1&f=M

Table 4 - Central Atlantic (PADD 1B) ULSD Stocks

Thousand Barrels (Annual Averages using Weekly Data)	PADD 1 <sup>14</sup>	PADD 1B (Central Atlantic) <sup>15</sup>
2012	20,930	9,470
2013	25,963	13,751
2014	25,730	13,543
Average	24,200	12,250

Based on estimates from industry experts, we determined that the operational minimum levels for storage tanks in the New York Harbor area are approximately 10%. Therefore, we estimate that approximately 600,000 of the 6.0 million barrels of stored ULSD are used for operations, leaving 5.4 million barrels available for spot month delivery.

# Summary of Deliverable Supply

As noted previously, the key components the Exchange considered in updating ULSD deliverable supply are: refinery production, net foreign imports to the delivery area, pipeline and barge flows from the US Gulf Coast and PADD 1B storage levels. Using three-year average historical data presented previously, the Exchange estimates the monthly deliverable supply of ULSD in New York Harbor to be approximately 23.5 million barrels, which is equivalent to 23,500 contracts per month.

- 1. Refinery Production:  $264,000 \text{ b/d} \times 30 \text{ days} = 7.9 \text{ million barrels per month}$
- 2. Net Imports:  $25,000 \text{ b/d} \times 30 \text{ days} = 750,000 \text{ barrels per month}$
- Pipeline/Barge Flows:  $320,000 \text{ b/d } \times 30 \text{ days} = 9.5 \text{ million barrels}$ 3.
- Storage levels in the delivery area = 5.4 million barrels 4.

Given the CFTC spot month position limit quideline of not exceeding 25% of the available monthly supply, the deliverable supply of New York Harbor ULSD would support a spot month position limit of up to 5,800 contract equivalents. The current spot month position limit for the NYMEX New York Harbor ULSD Futures Contract is 1,000 contracts.

http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WD0ST R10 1&f=W
 http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WD0ST R17 1&f=W

## **APPENDIX**

# 1. PADD 1, ULSD Production<sup>16</sup>, thousand barrels per day

2012	Jan	221.00
	Feb	171.50
	Mar	171.80
	Apr	241.75
	May	248.75
	Jun	250.60
	Jul	253.00
	Aug	244.00
	Sep	262.00
	Oct	253.75
	Nov	192.60
	Dec	258.50
2013	Jan	270.50
	Feb	220.25
	Mar	241.00
	Apr	301.75
	May	303.20
	Jun	317.00
	Jul	319.75
	Aug	310.60
	Sep	310.00
	Oct	242.00
	Nov	243.20
	Dec	238.50
2014	Jan	221.40
	Feb	227.75
	Mar	262.00
	Apr	302.50
	May	317.20
	Jun	328.00
	Jul	307.50
	Aug	298.20
	Sep	306.50
	Oct	314.60
	Nov	274.25
	Dec	272.25

<sup>&</sup>lt;sup>16</sup>EIA, Monthly averages using weekly data: <a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOTP\_R10\_2&f=W">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOTP\_R10\_2&f=W</a>

# 2. PADD 1, ULSD Imports<sup>17</sup> and Exports<sup>18</sup>, thousand barrels per day

		Imports	Exports	Net Imports
2012	Jan	88.25	10	78.25
	Feb	64.25	23	41.25
	Mar	70.60	1	69.60
	Apr	71.00	31	40.00
	May	56.75	76	-19.25
	Jun	59.00	96	-37.00
	Jul	54.75	53	1.75
	Aug	67.00	24	43.00
	Sep	59.75	25	34.75
	Oct	37.50	1	36.50
	Nov	87.80	0	87.80
	Dec	113.25	7	106.25
2013	Jan	107.25	2	105.25
	Feb	65.00	15	50.00
	Mar	79.20	5	74.20
	Apr	115.75	33	82.75
	May	76.80	65	11.80
	Jun	47.50	109	-61.50
	Jul	90.25	137	-46.75
	Aug	47.20	83	-35.80
	Sep	81.75	149	-67.25
	Oct	89.25	105	-15.75
	Nov	126.00	33	93.00
	Dec	75.75	0	75.75
2014	Jan	107.00	2	105.00
	Feb	171.75	0	171.75
	Mar	115.25	0	115.25
	Apr	135.00	38	97.00
	May	77.40	76	1.40
	Jun	45.00	49	-4.00
	Jul	55.75	33	22.75
	Aug	73.60	134	-60.40
	Sep	48.50	3	45.50
	Oct	42.80	26	16.80
	Nov	55.25	30	25.25
	Dec	110.75	0	110.75

<sup>&</sup>lt;sup>17</sup> EIA, Monthly averages using weekly data: <a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WD0IM\_R10-Z00\_2&f=W">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WD0IM\_R10-Z00\_2&f=W</a>

<sup>18</sup> EIA, Monthly data: <a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=M\_EPDXL0\_EEX\_R10-Z00\_MBBLD&f=M">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WD0IM\_R10-Z00\_2&f=W</a>

# 3. PADD 1 Net Receipts from PADD 3, thousand barrels per day 19

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Year	Month	
2012	Jan	668
	Feb	643
	Mar	620
	Apr	622
	May	619
	Jun	661
	Jul	715
	Aug	689
	Sep	637
	Oct	610
	Nov	658
	Dec	772
2013	Jan	720
	Feb	685
	Mar	793
	Apr	694
	May	693
	Jun	801
	Jul	763
	Aug	770
	Sep	737
	Oct	715
	Nov	778
	Dec	808
2014	Jan	746
	Feb	675
	Mar	814
	Apr	719
	May	716
	Jun	729
	Jul	814
	Aug	759
	Sep	729
	Oct	741
	Nov	645
	Dec	671
Average		712

<sup>&</sup>lt;sup>19</sup> EIA, Monthly data: http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MD0NR R10-Z0P 2&f=M

# 4. PADD 1<sup>20</sup> and PADD 1B<sup>21</sup> ULSD Stocks (in Thousand Barrels)

2012         Jan         24,816         11,563           Feb         24,074         11,094           Mar         21,939         9,481           Apr         21,761         10,168           May         20,605         9,660           Jun         20,072         8,691           Jul         21,652         9,926           Aug         21,133         9,608           Sep         20,118         8,453           Oct         18,727         7,992           Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891 </th <th></th> <th></th> <th>PADD 1</th> <th>PADD 1B</th>			PADD 1	PADD 1B
Mar         21,939         9,481           Apr         21,761         10,168           May         20,605         9,660           Jun         20,072         8,691           Jul         21,652         9,926           Aug         21,133         9,608           Sep         20,118         8,453           Oct         18,727         7,992           Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557<	2012	Jan	24,816	11,563
Apr       21,761       10,168         May       20,605       9,660         Jun       20,072       8,691         Jul       21,652       9,926         Aug       21,133       9,608         Sep       20,118       8,453         Oct       18,727       7,992         Nov       16,733       7,417         Dec       20,489       10,256         2013       Jan       25,802       13,527         Feb       21,973       11,341         Mar       22,153       10,895         Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       <		Feb	24,074	11,094
May         20,605         9,660           Jun         20,072         8,691           Jul         21,652         9,926           Aug         21,133         9,608           Sep         20,118         8,453           Oct         18,727         7,992           Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,964         17,624           Aug         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557           Mar         20,878         9,410<		Mar	21,939	9,481
Jun         20,072         8,691           Jul         21,652         9,926           Aug         21,133         9,608           Sep         20,118         8,453           Oct         18,727         7,992           Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,964         17,624           Aug         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557           Mar         20,878         9,410           Apr         23,635         12,033		Apr	21,761	10,168
Jul       21,652       9,926         Aug       21,133       9,608         Sep       20,118       8,453         Oct       18,727       7,992         Nov       16,733       7,417         Dec       20,489       10,256         2013       Jan       25,802       13,527         Feb       21,973       11,341         Mar       22,153       10,895         Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Aug		May	20,605	9,660
Aug       21,133       9,608         Sep       20,118       8,453         Oct       18,727       7,992         Nov       16,733       7,417         Dec       20,489       10,256         2013       Jan       25,802       13,527         Feb       21,973       11,341         Mar       22,153       10,895         Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Aug       31,897       18,185         Sep		Jun	20,072	8,691
Sep         20,118         8,453           Oct         18,727         7,992           Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,964         17,624           Aug         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557           Mar         20,878         9,410           Apr         23,635         12,033           May         23,734         11,524           Jul         30,272         15,982           Jul         30,272         15,		Jul	21,652	9,926
Oct         18,727         7,992           Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,964         17,624           Aug         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557           Mar         20,878         9,410           Apr         23,635         12,033           May         23,734         11,524           Jul         30,272         15,982           Jul         30,272         15,982           Aug         31,857         18		Aug	21,133	9,608
Nov         16,733         7,417           Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,964         17,624           Aug         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557           Mar         20,878         9,410           Apr         23,635         12,033           May         23,734         11,524           Jul         30,272         15,982           Aug         31,857         18,185           Sep         31,990         18,272           Oct         31,097         1		Sep	20,118	8,453
Dec         20,489         10,256           2013         Jan         25,802         13,527           Feb         21,973         11,341           Mar         22,153         10,895           Apr         22,964         11,162           May         25,058         11,570           Jun         27,853         14,742           Jul         30,964         17,624           Aug         30,897         18,058           Sep         30,843         18,343           Oct         26,077         14,179           Nov         23,261         11,702           Dec         24,328         12,569           2014         Jan         21,891         10,893           Feb         18,042         8,557           Mar         20,878         9,410           Apr         23,635         12,033           May         23,734         11,524           Jul         30,272         15,982           Aug         31,857         18,185           Sep         31,990         18,272           Oct         31,097         17,955           Nov         24,544		Oct	18,727	7,992
2013       Jan       25,802       13,527         Feb       21,973       11,341         Mar       22,153       10,895         Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Nov	16,733	7,417
Feb       21,973       11,341         Mar       22,153       10,895         Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Dec	20,489	10,256
Mar       22,153       10,895         Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256	2013	Jan	25,802	13,527
Apr       22,964       11,162         May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Feb	21,973	11,341
May       25,058       11,570         Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Mar	22,153	10,895
Jun       27,853       14,742         Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Apr	22,964	11,162
Jul       30,964       17,624         Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		May	25,058	11,570
Aug       30,897       18,058         Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Jun	27,853	14,742
Sep       30,843       18,343         Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Jul	30,964	17,624
Oct       26,077       14,179         Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Aug	30,897	18,058
Nov       23,261       11,702         Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Sep	30,843	18,343
Dec       24,328       12,569         2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Oct	26,077	14,179
2014       Jan       21,891       10,893         Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Nov	23,261	11,702
Feb       18,042       8,557         Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Dec	24,328	12,569
Mar       20,878       9,410         Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256	2014	Jan	21,891	10,893
Apr       23,635       12,033         May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Feb	18,042	8,557
May       23,734       11,524         Jun       25,852       12,614         Jul       30,272       15,982         Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Mar	20,878	9,410
Jun     25,852     12,614       Jul     30,272     15,982       Aug     31,857     18,185       Sep     31,990     18,272       Oct     31,097     17,955       Nov     24,544     14,256		Apr	23,635	12,033
Jul     30,272     15,982       Aug     31,857     18,185       Sep     31,990     18,272       Oct     31,097     17,955       Nov     24,544     14,256		May	23,734	11,524
Aug       31,857       18,185         Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Jun	25,852	12,614
Sep       31,990       18,272         Oct       31,097       17,955         Nov       24,544       14,256		Jul	30,272	15,982
Oct         31,097         17,955           Nov         24,544         14,256		Aug	31,857	18,185
Nov 24,544 14,256		Sep	31,990	18,272
		Oct	31,097	17,955
Dec 23,556 11,734		Nov	24,544	14,256
		Dec	23,556	11,734

<sup>&</sup>lt;sup>20</sup> EIA, Monthly averages using weekly data: <a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOST R10 1&f=W">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOST R10 1&f=W</a>
<a href="http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOST R10 1&f=W">http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WDOST R10 1&f=W</a>