

SUBMISSION COVER SHEET

IMPORTANT: Check box if Confidential Treatment is requested

Registered Entity Identifier Code (optional): 18-261 (2 of 2)

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

Filing as a: DCM SEF DCO SDR

Please note - only ONE choice allowed.

Filing Date (mm/dd/yy): 08/08/2018 Filing Description: Initial Listing of Two (2) Micro Fuel Oil Futures

SPECIFY FILING TYPE

Please note only ONE choice allowed per Submission.

Organization Rules and Rule Amendments

- Certification § 40.6(a)
- Approval § 40.5(a)
- Notification § 40.6(d)
- Advance Notice of SIDCO Rule Change § 40.10(a)
- SIDCO Emergency Rule Change § 40.10(h)

Rule Numbers:

New Product

Please note only ONE product per Submission.

- Certification § 40.2(a)
- Certification Security Futures § 41.23(a)
- Certification Swap Class § 40.2(d)
- Approval § 40.3(a)
- Approval Security Futures § 41.23(b)
- Novel Derivative Product Notification § 40.12(a)
- Swap Submission § 39.5

Official Product Name: See filing.

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

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

Official Name(s) of Product(s) Affected:

Rule Numbers:

August 8, 2018

VIA ELECTRONIC PORTAL

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

Re: CFTC Regulation 40.2(a) Certification. Notification Regarding the Initial Listing of Two (2) Micro Fuel Oil Futures Contracts. NYMEX Submission No. 18-261 (2 of 2)

Dear Mr. Kirkpatrick:

New York Mercantile Exchange, Inc. (“NYMEX” or “Exchange”) is notifying the Commodity Futures Trading Commission (“CFTC” or “Commission”) that it is self-certifying the initial listing of two (2) micro fuel oil futures contracts (collectively, the “Contracts”) for trading on CME Globex and for submission into clearing via CME ClearPort, effective Sunday, August 26, 2018 for first trade date Monday, August 27, 2018 as noted in the table below.

Contract Titles	Micro Singapore Fuel Oil 380 cst (Platts) Futures Micro European 3.5% Fuel Oil Barges FOB Rdam (Platts) Futures
NYMEX Rulebook Chapters	1058 1059
Commodity Codes	MAF MEF
Settlement Type	Financial
Contract Size	10 metric tons
Pricing Quotation	U.S. dollars and cents per metric ton
Minimum Price Fluctuation	\$0.001 per metric ton
Value per tick	\$0.01
First Listed Contract	September 2018
Termination of Trading	Last business day of the contract month
Listing Schedule	Monthly contracts listed for the current year and the next five (5) calendar years. Additional monthly contracts will be listed for a new calendar year following the termination of trading in the December of the current year.
CME Globex Match Algorithm	First-In, First-Out (FIFO)
Block Trade Minimum Threshold	5 contracts

Trading and Clearing Hours:

CME Globex and CME ClearPort: Sunday – Friday 6:00 p.m. – 5:00 p.m. Eastern Time/ET (5:00 p.m. – 4:00 p.m. Chicago Time/CT) with an hour break each day beginning at 5:00 p.m. ET (4:00 p.m. CT).

Fees:

Exchange Fees	Member	Non-Member	International Incentive Programs (IIP/IVIP)
CME Globex	\$0.25	\$0.30	\$0.28
EFP	\$0.25	\$0.30	
Block	\$0.25	\$0.30	
EFR/EOO	\$0.25	\$0.30	

Processing Fees	Member	Non-Member
Cash Settlement	\$0.01	\$0.01

Other Processing Fees	Fee
Facilitation Fee	\$0.60
Give-Up Surcharge	\$0.05
Position Adjustment/Position Transfer	\$0.10

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

NYMEX is self-certifying block trading on these Contracts with a minimum block threshold of five (5) lots for the Contracts. The Micro Futures contracts are a subset of existing Mini Futures contracts such as the Mini European 3.5% Fuel Oil Barges FOB Rdam (Platts) Futures (commodity code 0D and rulebook chapter 842) where the current minimum block threshold is five (5) lots.

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

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

- **Contracts Not Readily Subject to Manipulation:** The Contracts are based on a cash price series that are reflective of the underlying cash market are commonly relied on and used as a reference price by cash market brokers and commercial market participants.
- **Prevention of Market Disruption:** Trading in the Contracts will be subject to the rules of the Exchange, which include prohibitions on manipulation, price distortion, and disruption to the cash settlement process. As with any new product listed for trading on a CME Group designated contract market, trading activity in the 3 futures contracts proposed herein will be subject to monitoring and surveillance by CME Group's Market Regulation Department.
- **Position Limitations or Accountability:** The speculative position limits for the Contracts as demonstrated in this submission are consistent with the Commission's guidance.
- **Availability of General Information:** The Exchange will publish information on the contract's specifications on its website, together with daily trading volume, open interest and price information.
- **Daily Publication of Trading Information:** The Exchange will publish contract trading volumes, open interest levels, and price information daily on its website and through quote vendors for the Contracts.
- **Execution of Transactions:** The Contracts will be listed for trading on the CME Globex electronic trading and for clearing through CME ClearPort. The CME Globex trading venue provides for competitive and open execution of transactions. CME Globex affords the benefits of reliability and global connectivity.
- **Trade Information:** All requisite trade information for the Contracts will be included in the audit trail and is sufficient for the Market Regulation Department to monitor for market abuse.
- **Financial Integrity of Contract:** All contracts traded on the Exchange will be cleared by the CME Clearing House which is a registered derivatives clearing organization with the Commission and is subject to all Commission regulations related thereto.
- **Protection of Market Participants:** Rulebook Chapters 4 and 5 contain multiple prohibitions precluding intermediaries from disadvantaging their customers. These rules apply to trading on all of the Exchange's competitive trading venues and will be applicable to transactions in these products.
- **Disciplinary Procedures:** Chapter 4 of the Rulebook contains provisions that allow the Exchange to discipline, suspend or expel members or market participants that violate the rules. Trading in these contracts will be subject to Chapter 4, and the Market Regulation Department has the authority to exercise its enforcement power in the event rule violations in these products are identified.
- **Dispute Resolution:** Disputes with respect to trading in these contracts will be subject to the arbitration provisions set forth in Chapter 6 of the Rulebook. The rules in Chapter 6 allow all nonmembers to submit a claim for financial losses resulting from transactions on the Exchange to arbitration. A member named as a respondent in a claim submitted by a nonmember is required to participate in the arbitration pursuant to the rules in Chapter 6. Additionally, the Exchange requires that members resolve all disputes concerning transactions on the Exchange via arbitration.

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

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

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

Sincerely,

/s/ Christopher Bowen
Managing Director and Chief Regulatory Counsel

Attachments: Exhibit A: NYMEX Rulebook Chapters
Exhibit B: Position Limits, Position Accountability and Reportable Level Table in Chapter 5 of the NYMEX Rulebook (attached under separate cover)
Exhibit C: NYMEX Rule 588.H. – (“Globex Non-Reviewable Trading Ranges”) Table
Exhibit D: Cash Market Overview and Analysis of Deliverable Supply

Exhibit A

NYMEX Rulebook Chapters

Chapter 1058

Micro Singapore Fuel Oil 380CST (Platts) Futures

1058100. SCOPE OF CHAPTER

The provisions of these rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

1058101. CONTRACT SPECIFICATIONS

The Floating Price for each contract month is equal to the arithmetic average of the high and low quotations from the Platts Asia-Pacific Marketscan for Singapore High Sulfur Fuel Oil 380cst (Waterborne Cargo) price for each business day that it is determined during the contract month.

1058102. TRADING SPECIFICATIONS

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

1058102A. Trading Schedule

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

1058102B. Trading Unit

The contract quantity shall be 10 metric tons. Each contract shall be valued as the contract quantity (10) multiplied by the settlement price.

1058102C. Price Increments

Prices shall be quoted in U.S. dollars and cents per metric ton. The minimum price fluctuation shall be \$0.001 per metric ton. There shall be no maximum price fluctuation.

1058102D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5. A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion. Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

1058102E. Termination of Trading

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

1058103. FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

1058104. DISCLAIMER

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Chapter 1059

Micro European 3.5% Fuel Oil Barges FOB Rdam (Platts) Futures

1059100. SCOPE OF CHAPTER

The provisions of these rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

1059101. CONTRACT SPECIFICATIONS

The Floating Price for each contract month is equal to the arithmetic average of the high and low quotations from Platts European Marketscan for 3.5% Fuel Oil under the heading "Barges FOB Rotterdam" assessment for each business day that it is determined during the contract month.

1059102. TRADING SPECIFICATIONS

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

1059102A. Trading Schedule

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

1059102B. Trading Unit

The contract quantity shall be 10 metric tons. Each contract shall be valued as the contract quantity (10) multiplied by the settlement price.

1059102C. Price Increments

Prices shall be quoted in U.S. dollars and cents per metric ton. The minimum price fluctuation shall be \$0.001 per metric ton. There shall be no maximum price fluctuation.

1059102D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5. A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion. Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

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Exhibit B

**Position Limits, Position Accountability and Reportable Level Table
in Chapter 5 of the NYMEX Rulebook**

(attached under separate cover)

Exhibit C

**NYMEX Rulebook
Chapter 5
("Trading Qualifications and Practices")**

NYMEX Rule 588.H. – ("Globex Non-Reviewable Trading Ranges") Table

(additions are underscored)

Outright					Spreads	
Instrument Name	Globex Symbol	Globex Non-Reviewable Ranges (NRR)	NRR: Globex Format	NRR: Ticks	NRR: Globex Format	NRR: Minimum Outright Ticks
<u>Micro European 3.5% Fuel Oil Barges FOB Rotterdam (Platts) Futures</u>	<u>MEF</u>	<u>\$2.00 per metric ton</u>	<u>2000</u>	<u>2000</u>	<u>500</u>	<u>500</u>
<u>Micro Singapore Fuel Oil 380CST (Platts) Futures</u>	<u>MAF</u>	<u>\$2.00 per metric ton</u>	<u>2000</u>	<u>2000</u>	<u>500</u>	<u>500</u>

Exhibit D

Cash Market Overview and Analysis of the Deliverable Supply

New York Mercantile Exchange, Inc. (“NYMEX” or “Exchange”) reviewed the underlying cash market for European and Singapore fuel oil in connection with two (2) Micro Fuel Oil futures contracts that will be listed on the Exchange. These contracts will be cash settled against prices that are published by Platts.

NYMEX has a licensing agreement with Platts to use the prices in the final settlement of these contracts.

Price Source

Platts is a leading Oil Price Reporting Agency who provide price assessments to the Energy industry and beyond to help to determine the value of the key Crude Oil and Refined Products. They are also involved in the price assessment process for Natural Gas, LNG and Power. Platts is one of the major pricing services used in the OTC market for the pricing of swap contracts, and the methodology utilized by Platts is well-known in the oil industry. Their pricing methodology¹ is derived from telephone surveys and electronic data collected from multiple market participants to determine market value. Platts has a long-standing reputation in the industry for price benchmarks that are fair and not manipulated. NYMEX is a party to a license agreement with Platts to utilize their pricing data.

Data provided by the **Joint Organisations Data Initiative Oil (JODI-Oil)**² is an amalgamation of a number of data sources across the globe including Eurostat, the International Energy Agency, OPEC and the United Nations. The number of participating organisations is 8 but its representation is global. JODI was launched in 2001 and they provide data for oil and natural gas markets from over 100 countries. The data contained on their website goes back to 2002 and like other data sources they provide a range of information covering Energy Production, Consumption, Stocks, Demand, Imports, Exports and Prices and prepares ad-hoc special reports on topics of interest on a periodic basis.

The **Singapore Energy Market Authority (EMA)**³ data is compiled by the Singapore Government and covers statistics on Production, Consumption, Stocks, Imports and Exports within the Energy sector in Singapore. This data is constantly being updated and is a reliable source for those looking to get the most complete and accurate data from this vibrant energy trading hub. We have referred to the EMA data in the second part of our analysis highlighting the Singapore Fuel Oil Market as it is the best and most reliable data source for this country's activity.

Market Activity

Fuel oil is a key feedstock for the bunker market although more stringent environmental rules governing the maximum sulphur content in marine fuels from 2020 could curtail the use of fuel oil by the marine sector. The sulphur cap, which applies on a global level, has been set at just 0.5% from 2020 onwards so several of the major oil groups have been investing in capacity to be able to produce compliant fuels with IMO 2020.

The **Singapore Fuel oil market** is priced in USD and cents per metric tonne. The conversion factor is 6.35 barrels per metric tonne. The estimated trading volume of fuel oil traded in the Singapore cash market (via the Platts e-Window) is about 55,000 tonnes per day or 350,000 barrels per day. The typical transaction size is about 20,000 metric tons but trade sizes are seen up to 40,000 metric tons. The volume of spot transactions is typically more than half of all cash transactions. There is active trading in forward cash deals and in the OTC swaps market. Forward cash transactions may be re-traded or the cargoes re-nominated

¹ <http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/asiaoilproductspecs.pdf>

² JODI Database - <https://www.jodidata.org/>

³ <http://www.ema.gov.sg/index.aspx>

to alternative recipients. The bid/ask spreads are typically 25 to 50 cents per metric tonne which reflects the liquidity in the cash market. Singapore is a significant refining centre for Asia-Pacific with over 1.3-million b/d of capacity. The largest refiner in the region is the 605,000 b/d Jurong Island Refinery operated by Exxon-Mobil. Other refiners include Singapore Refining, also on Jurong Island, and Shell's Pulau Bukom Refinery.

There are two main grades of fuel oil in Singapore with different levels of viscosity. The primary grade is the 380CST fuel oil but there is also a 180CST market, which market sources say is a smaller portion of the market.

The **Rotterdam fuel oil** market is priced in USD and cents per metric tonne. The conversion factor is 6.35 barrels per metric tonne. The estimated trading volume of fuel oil traded in the European cash market is around 25,000 metric tons per day with the typical trade size around 2kt. There is an active traded market in forward cash deals and in the OTC swaps market. Forward cash transactions may be re-traded or the cargoes re-nominated to alternative recipients. The bid/ask spreads are typically 25 to 50 cents per metric tonne which reflects the liquidity in the cash market. The broader Amsterdam, Rotterdam, Antwerp market has a large refining centre around it and it is well located for the barge market feeding the inland European market.

There are two main grades of fuel oil that are traded and each one is categorized based on its sulphur content. The most significant grade is the 3.5% high sulphur fuel oil followed by the 1% low sulphur fuel oil. The barge market remains one of the most liquid fuel oil markets on a global basis and traded by both European fuel oil traders and imports/exporters who are pricing fuel oil in and out of the region.

Market Overview

Fuel oil is classified as a heavy residual fuel that is produced from crude oil. It is also further refined by more sophisticated refineries to be processed into lighter and or lower sulphur petroleum products for the transportation sector. High sulphur crudes have a higher fuel oil yield than for low sulphur crudes but the amount of sulphur de-sulphurisation will depend on the complexity of each refinery. The refineries that have invested in secondary processing capacity will typically be able to process the fuel oil into lighter product streams which tend to have a higher price.

European High Sulphur Fuel oil

The Northwest European fuel oil market is centred around Belgium, France, Germany and the Netherlands. There is a significant refining centre in ARA where there is close to 1.3 million barrels per day of refining capacity in the Netherlands, according to the Statistics website Statista⁴. The key Dutch refineries are also located close to the River Rhine where barges can be delivered into mainland Europe through the significant demand centres of the Benelux and Germany.

Based on the JODI data, fuel oil production in Belgium, France (reduced by 50% to account for Med deliveries), the Netherlands and Germany was 2.3 million tons per month over an average of the previous 3 years up to March 2018. Over the same period, imports were around 2.9 million metric tons per month. The JODI data does not split out the fuel oil by quality or sulphur content and therefore we have applied a haircut of 35% to the production and import figures (based on the proportion of high sulphur to low sulphur physical trades, as reported in the cash market) to give a reflective figure for 3.5% Fuel oil. Total monthly production and imports of high sulphur fuel oil were 3.4 million tons per month based on the three-year average data to March 2018. The JODI data is shown in **Appendix A**.

Singapore Fuel Oil

Singapore 180CST and 380CST Fuel Oil are part of the "residual" fuel oil segment, which is used by utilities and the shipping industry. Residual Fuel Oil is also used as a refinery input to produce additional petroleum

⁴ Statista – Dutch Refining Capacity (2016). <https://www.statista.com/statistics/703117/refinery-capacities-of-netherlands/>

products via a deeper conversion process at the refinery which breaks down the high sulphur molecules into lower sulphur. The main trading hub for the Asian fuel oil market is Singapore, where extensive storage capacity and refining infrastructure exists. Singapore is a vibrant import/export center for petroleum products and is also the primary location for energy trading firms.

The Singapore petroleum markets are highly diverse and actively traded by refiners, traders, importers, and smaller distributors. Singapore is a major trading hub for Fuel oil in Asia-Pacific with its two benchmark products used to price imports into China and beyond.

Energy Flows in the Oil Refining Sector, 2013 – 2015

Units: Ktoe

Source: Energy Markets Authority (EMA)

	2013	2014	2015	3-year average
Refinery Inputs	52,128.40	49,153.00	51,479.80	50,920.40
Crude Oil & Natural Gas Liquids	44,730.0	41,653.30	44,801.40	43,227.35
Other Feedstocks	7,398.4	7,499.8	6,678.5	7,192.23
Refinery Outputs	50,993.20	47,432.90	49,349.80	49,258.63
Light Distillates	12,915.10	14,071.70	13,161.10	13,382.63
Middle Distillates	23,582.30	21,369.90	22,098.70	22,350.30
Heavy Distillates & Residuum*	14,495.80	11,991.30	14,090.10	13,525.73

*based on an energy content of 42.82GJ/t – 75% of this volume is considered fuel oil with 25% Residuum.

Refinery outputs, or production of heavy distillates and residuum over the 2013 to 2015 average period was 13, 525 ktoe which equates to 15.3 million tons per year or 1.28 million tons per month. The 2015 data for refinery production is the latest data available from the report dated July 2017. The calculation to get from

Mtoe to tonnes is as follows.

$$X \text{ Mtoe} \times \frac{4.87 \times 10^4 \text{ TJ}}{1 \text{ Mtoe}} \times \frac{1000 \text{ GJ}}{1 \text{ TJ}} \times \frac{1 \text{ t}}{42.82 \text{ GJ}} = x \text{ tonnes}$$

The refinery production category includes both fuel oil and residuum which includes feedstocks to the refining process like Vacuum Gasoil (VGO). Based on market sources the most conservative estimate suggests that this figure should be reduced by 25% meaning that Fuel oil only represents around 75% or 960,000 tons per month. The Exchange has made a further adjustment to reflect 380CST Fuel oil only. Based on the volume of trades concluded in the Singapore fuel oil market, about 75% of the volume reflected the quality of 380CST with 25% reflecting the quality 180CST. Therefore, a further adjustment to the volume of 25% has been made. Based on this adjustment, around 720,000 metric tons per month of 380CST Singapore fuel oil is produced by Singapore refiners.

Imports of Energy Products 2014-2016

Source: Singapore EMA

Units: ktoe

Unit: ktoe				
Energy Products	2014	2015	2016	2014-2016
Petroleum Products	103,801.5	113,432.9	113,348.1	110,194.2
Fuel Oil*	62,279.9	69,902.8	68,560.6	66,914.4
Gas/ Diesel Oil	14,322.8	14,809.2	15,896.1	15,009.4
Gasoline	14,774.5	15,614.9	16,891.2	15,760.2
Jet Fuel Kerosene	2,041.2	2,007.7	3,131.1	2,393.3
Naphtha	8,981.5	9,684.5	7,221.5	8,629.2
Other Petroleum Products	1,401.6	1,413.8	1,647.5	1,487.6

*based on an energy content of 42.82GJ/t

The EMA import data is published for Fuel oil and based on the three-year average, Singapore imports were 66,914.4 ktoe which equates to around 76 million tons per year or 6.34 million tons per month. Based on the volume of trades concluded in the Singapore fuel oil market, about 75% of the volume reflected the quality of 380CST with 25% reflecting the quality 180CST. Therefore, a further adjustment to the volume of 25% has been made. Based on this adjustment, around 4.75 million metric tons per month of 380CST Singapore fuel oil is imported into Singapore. The calculation to get from Mtoe to tonnes is as follows.

$$X \text{ Mtoe} \times \frac{4.87 \times 10^4 \text{ TJ}}{1 \text{ Mtoe}} \times \frac{1000 \text{ GJ}}{1 \text{ TJ}} \times \frac{1 \text{ t}}{42.82 \text{ GJ}} = x \text{ tonnes}$$

By way of comparison, the Exchange has reviewed the import data from JODI. The average imports over the period 2015 to 2016 was around 6 million tons per year therefore the data is broadly in line with the EMA data, which is generally considered more representative for the Singapore market and is official government statistics.

Analysis of the Deliverable Supply

The Commission defines deliverable supply as 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.⁵

The Exchange determined not to adjust the deliverable supply estimates based on the spot availability because spot market liquidity is not restrictive and tends to vary depending on the market fundamentals of supply and demand. The typical term agreement in the cash market allows flexibility for re-trading of the contracted quantity in the spot market, so the term agreements do not restrict the potential deliverable supply in European or Singapore fuel oil.

For **Singapore fuel oil**, the Exchange has based its analysis of deliverable supply on the production and imports of high sulphur fuel oil in the Singapore market. The Energy Markets Authority data (EMA) has been used as the basis of deliverable supply. The Exchange has used the 2013-2015 production data and the 2014 – 2016 import data, being the latest data sets available. The Exchange has made an adjustment of 25% to the Singapore production data as the data includes Heavy Fuel oil and Residuum to account for fuel oil only. The EMA data does not distinguish between 380CST and 180CST so the Exchange reviewed the volume of physical transaction data to determine an appropriate split. Based on the trades for 380CST and 180CST over a 6-month period ending June 2018, the proportion of trades matching the 380CST was around 75% of the total therefore the Exchange has made a further adjustment of 25% to the Singapore fuel oil data for production and has applied the same haircut to the fuel oil import data. The monthly imports into Singapore for fuel oil are about 6.34 million tons per month and adjusted to reflect 380CST the import figure is around 4.75 million tons per month or 4,750 contract month equivalents (based on a contract size of 1,000 metric tons). Fuel oil production, adjusted for fuel oil only represents about 960,000 metric tons per month, however a further adjustment has been made to reflect 380CST only and therefore the production volume is around 720,000 metric tons per month or 720 contract month equivalents. Total imports and production of 380CST are therefore about 5.47 million metric tons per month or 5,470 contract month equivalents.

Positions in the **Micro Singapore Fuel Oil 380CST (Platts) Futures** which are traded in units of 10 metric tons will be aggregated into the Singapore Fuel Oil 380CST (Platts) Futures (commodity code SE) for which the spot month position limit is 500 contracts. Based on the monthly deliverable supply of Singapore 380CST Fuel Oil this represents about 9.1% of the monthly deliverable supply of 380CST fuel oil and below the 25% threshold. For the purposes of calculating the position limits, the ratio between the Micro Futures and the Singapore Fuel Oil will be 100:1 due to difference in the contract size between the two contracts.

For **European high sulphur fuel oil**, the Exchange has based the calculation of deliverable supply on the volume of production and imports in Germany, the Netherlands, Belgium and France. The data for France has been halved to reflect material in Northwest Europe only with the remainder being considered as Mediterranean volume. As the JODI data does not split out the fuel oil by quality, we have determined an appropriate split between high sulphur and low sulphur fuel oil. Based on the volume of trades in the cash market for 3.5% and 1% the Exchange has determined that the split between high sulphur and low sulphur fuel oil is 65:35. Therefore, a further adjustment of 35% has been made to reflect 3.5% fuel oil material only with the remaining volume representing 1% fuel oil. The revised data is shown in **Appendix A**.

The volume of high sulphur fuel oil production in Northwest Europe, comprising of Germany, the Netherlands, Belgium and France (50%) was 1.5 million metric tons per month and imports was 1.9 million metric tons per month giving a deliverable supply volume of 3.4 million metric tons per month or 3,400 contract month equivalents (based on a contract size of 1,000 metric tons). Positions in the **Micro**

⁵ http://www.ecfr.gov/cgi-bin/text-idx?SID=74959c3dbae469e2efe0a42b45b8dfae&mc=true&node=ap17.1.38_11201.c&rgn=div9

European 3.5% Fuel Oil Barges FOB Rdam (Platts) Futures which are traded in units of 10 metric tons will be aggregated into the European 3.5% Fuel Oil Barges FOB Rdam (Platts) (commodity code UV) for which the spot month position limit is 500 contracts. Based on the monthly deliverable supply of European high sulphur fuel oil this represents about 14.7% of the monthly deliverable supply of 3.5% Fuel oil and below the 25% threshold. For the purposes of calculating the position limits, the ratio between the Micro Futures and the 3.5% Fuel Oil Barges FOB Rdam will be 100:1 due to difference in the contract size between the two contracts.

Appendix A.

European high sulphur imports and production – Northwest Europe.

Source: JODI Data

Units: kMT

Fuel Oil Imports (kMT)					
Date	Belgium	France*	Germany	Netherlands	
Apr-15	295	229	126	3131	
May-15	297	266	139	3724	
Jun-15	338	188	214	3020	
Jul-15	393	301	216	3114	
Aug-15	380	347	160	3197	
Sep-15	318	249	111	2900	
Oct-15	377	264	150	2943	
Nov-15	298	174	108	2739	
Dec-15	266	360	186	3621	
Jan-16	368	355	222	2632	
Feb-16	360	258	250	2619	
Mar-16	352	368	296	2978	
Apr-16	339	433	227	2446	
May-16	314	466	244	3349	
Jun-16	318	230	187	2439	
Jul-16	243	200	197	2556	
Aug-16	241	351	181	2649	
Sep-16	405	257	218	2369	
Oct-16	396	184	142	2088	
Nov-16	507	136	181	2628	
Dec-16	371	249	180	2723	
Jan-17	460	256	188	2261	
Feb-17	444	287	195	1529	
Mar-17	379	467	233	1152	
Apr-17	314	333	197	1683	
May-17	365	266	143	1278	
Jun-17	400	314	178	1147	
Jul-17	395	372	193	1213	
Aug-17	364	221	228	1068	
Sep-17	339	233	193	2283	
Oct-17	498	282	179	1162	
Nov-17	548	226	166	845	
Dec-17	469	261	176	1070	
Jan-18	481	357	185	881	
Feb-18	356	321	170	966	

Mar-18	436	200	218	967	
Total fuel oil per month - 3 year average	373	143	188	2,205	2,908
Adjusted figure - 3.5% fuel oil	242	93	122	1,433	1,890
Adjusted figure - 1% fuel oil	131	50	66	772	1,018

*France has been reduced by 50%

Fuel oil Production (kMT per month)					
Date	Belgium	France*	Germany	Netherlands	
Apr-15	419	470	738	758	
May-15	384	483	642	694	
Jun-15	231	324	492	529	
Jul-15	370	450	722	550	
Aug-15	363	513	744	712	
Sep-15	308	640	462	724	
Oct-15	375	650	631	798	
Nov-15	617	539	640	682	
Dec-15	540	571	647	948	
Jan-16	439	699	762	1035	
Feb-16	444	630	691	879	
Mar-16	459	588	642	836	
Apr-16	470	601	671	1200	
May-16	422	511	500	1053	
Jun-16	449	427	509	934	
Jul-16	550	702	554	914	
Aug-16	513	721	588	1043	
Sep-16	473	573	607	1062	
Oct-16	371	677	608	1005	
Nov-16	206	723	561	961	
Dec-16	552	787	682	1040	
Jan-17	546	554	671	999	
Feb-17	483	479	685	950	
Mar-17	672	561	528	1045	
Apr-17	696	549	622	1037	
May-17	625	684	520	1095	
Jun-17	673	500	555	880	
Jul-17	647	565	570	836	
Aug-17	664	557	552	778	
Sep-17	596	642	643	1062	
Oct-17	578	672	716	1030	
Nov-17	661	555	610	996	
Dec-17	627	583	706	1015	
Jan-18	640	647	756	1053	
Feb-18	532	563	759	922	
Mar-18	632	588	722	922	
Average monthly volume	506	291	631	916	2,344

Adjusted figure - 3.5% fuel oil	329.10	189.38	410.01	595.42	1,524
Adjusted figure - 1% fuel oil	177.21	101.98	220.77	320.61	821

*France has been reduced by 50%