

SUBMISSION COVER SHEET

IMPORTANT: Check box if Confidential Treatment is requested

Registered Entity Identifier Code (optional): 23-446

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): 10/27/23 Filing Description: Initial Listing of the WTI-Brent Crude Oil Cross-Month Spread Option – (1-Month) Contract

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

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:

October 27, 2023

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. Initial Listing of the WTI-Brent Crude Oil
 Cross-Month Spread Option - (1 Month) Contract.
 NYMEX Submission No. 23-446**

Dear Mr. Kirkpatrick:

New York Mercantile Exchange, Inc. (“NYMEX” or “Exchange”) is certifying to the Commodity Futures Trading Commission (“CFTC” or “Commission”) the initial listing of the WTI-Brent Crude Oil Cross-Month Spread Option – (1 Month) contract (the “Contract”) for trading on the CME Globex electronic trading platform (“CME Globex”) and for submission for clearing via CME ClearPort, effective Sunday, December 10, 2023, for trade date Monday, December 11, 2023 as described in the table below.

| | |
|---|---|
| Contract Title | WTI-Brent Crude Oil Cross-Month Spread Option – (1 Month) |
| Commodity Code | BVX |
| Rulebook Chapter | 380 |
| Underlying Futures Contracts / Commodity Codes | Light Sweet Crude Oil Futures / CL Brent Crude Oil Last Day Financial Futures / BZ |
| Contract Size | 1,000 barrels |
| Price Quotation | US dollars and cents per barrel |
| Minimum Price Fluctuation | \$0.01 |
| Value per Tick | \$10.00 |
| Option Exercise Style | European – financially settled |
| Listing Schedule | Monthly contracts listed for the current year and the next 3 calendar years. List monthly contracts for a new calendar year following the termination of trading in the December contract of the current year. The Contract month for BVX will align with the underlying CL Contract Month. |
| Initial Listed Month | January 2024 |

| | |
|--------------------------------------|---|
| Strike Price Increments | Minimum 10 strikes at \$0.25 per barrel increment above and below the at-the-money strike plus dynamic strikes at \$0.25 per barrel increment for the nearest 36 months. Dynamic strikes only at \$0.25 per barrel increment for months 37+. |
| Block Trade Minimum Threshold | 5 contracts - subject to a 15-minute reporting window |
| Termination of Trading | Trading terminates 4 business day before the 25th calendar day of the month prior to the contract month. If the 25th calendar day is not a business day, trading terminates 5 business days before the 25th calendar day of the month prior to the contract month. |
| Trading and Clearing Hours | CME Globex Pre-Open: Sunday 4:00 p.m. - 5:00 p.m. Central Time / CT Monday - Thursday 4:45 p.m. - 5:00 p.m. CT CME Globex: Sunday - Friday 5:00 p.m. CT with a daily maintenance period from 4:00 p.m. - 5:00 p.m. CT CME ClearPort: Sunday - Friday 5:00 p.m. - 4:00 p.m. CT with no reporting Monday - Thursday from 4:00 p.m. - 5:00 p.m. CT |

The Contract is a referenced contract and will be subject to federal position limits during the spot month. The core referenced futures contract is the Light Sweet Crude Oil Futures Contract (Commodity Code: CL; Rulebook Chapter 200).

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 Contract may have some bearing on the following Core Principles:

- **Compliance with Rules:** Trading in the Contract will be subject to the rules in Rulebook Chapter 4 which includes prohibitions against fraudulent, noncompetitive, unfair and abusive practices. Additionally, trading in the Contract will also be subject to the full panoply of trade practice rules, the majority of which are contained in Chapter 5 and Chapter 8 of the Rulebook. As with all products listed for trading on one of CME Group’s designated contract markets, activity in the new product will be subject to extensive 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.
- **Contract Not Readily Subject to Manipulation:** The Contract is not readily susceptible to manipulation and are based on the liquidity and robustness of the underlying cash market.
- **Prevention of Market Disruption:** Trading in the Contract will be subject to the Rules of NYMEX which include prohibitions on manipulation, price distortion and disruptions of the delivery or cash-settlement process. As with all products listed for trading on one of CME Group’s designated contract markets, activity in the new products will be subject to extensive monitoring and surveillance by CME Group’s Market Regulation Department.
- **Position Limitations or Accountability:** The speculative position limits for the Contract as demonstrated in this submission are consistent with the Commission’s guidance.
- **Availability of General Information:** The Exchange will publish on its website information regarding contract specifications, terms and conditions, as well as daily trading volume, open interest and price information for the Contract.
- **Daily Publication of Trading Information:** The Exchange will publish information contract trading volumes, open interest levels, and price information daily on its website and through quote vendors for the Contract.

- **Execution of Transactions:** The Contract 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 required trade information for the Contract will be included in the audit trail and is sufficient for the Market Regulation Department to monitor for market abuse.
- **Financial Integrity of Contract:** The Contract 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:** NYMEX 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 this Contract.
- **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 the Contract 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 this Contract is identified.
- **Dispute Resolution:** Disputes with respect to trading in the Contract 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 the Contract complies 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 (312) 466-7478 or via e-mail at CMEGSubmissionInquiry@cmegroup.com.

Sincerely,

/s/ Timothy Elliott
 Managing Director and Chief Regulatory Counsel

Attachments: Exhibit A: NYMEX Rulebook Chapter 380
 Exhibit B: Position Limits, Position Accountability and Reportable Level Table in Chapter 5 of the NYMEX Rulebook (attached under separate cover)
 Exhibit C: Exchange Fees
 Exhibit D: NYMEX Rule 588.H. – (“Globex Non-Reviewable Trading Ranges”) Table
 Exhibit E: NYMEX Rule 589. – Special Price Fluctuation Limits and Daily Price Limits Table
 Exhibit F: NYMEX Rule 300.20. – Strike Price Listing and Exercise Procedures Table
 Exhibit G: Cash Market Overview and Analysis of Deliverable Supply

Exhibit A
NYMEX Rulebook

Chapter 380
WTI-Brent Crude Oil Cross-Month Spread Option

380100. SCOPE OF CHAPTER

This chapter is limited in application to put and call intercommodity spread options on the Light Sweet Crude Oil Futures contract (code: CL) and the Brent Crude Oil Last Day Financial Futures contract (code: BZ). In addition to the rules of this chapter, transactions in WTI-Brent Crude Oil Cross-Month Spread Option shall be subject to the general rules of the Exchange insofar as applicable.

380101. OPTION CHARACTERISTICS

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

380101.A. Trading Schedule

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

380101.B. Trading Unit

One (1) WTI-Brent Crude Oil Cross-Month Spread Option reflects the difference between the settlement price of one (1) Light Sweet Crude Oil Futures contract (code: CL) of the specified contract month, and the settlement price of one (1) Brent Last Day Financial Futures contract (code: BZ) of the contract month specified in the product title.

One (1) WTI-Brent Crude Oil Cross-Month Spread Option – (1 Month) contract reflects the difference between the settlement price of (1) Light Sweet Crude Oil Futures contract (code: CL) of the specified contract month, and the settlement price of one (1) Brent Last Day Financial Futures contract (code: BZ) whose contract month is one (1) month following the specified contract month.

380101.C. Price Increments

Prices shall be quoted in dollars and cents per barrel and prices shall be in multiples of \$0.01 per barrel. The minimum price increment will be \$0.01.

380101.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

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

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

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

380102.E. Termination of Trading

A WTI-Brent Crude Oil Cross-Month Spread Option shall expire at the close of trading one (1) Business Day immediately preceding the expiration of the Light Sweet Crude Oil Futures contract (code: CL) in the spread.

380101.F. Type Option

The option is a financially-settled European-style option contract which cannot be exercised prior to expiration.

380102. EXERCISE PRICES AND CHARACTERISTICS

Transactions shall be conducted for option contracts as set forth in Rule 300.20.

Exhibit B
NYMEX Rulebook
Chapter 5
(“Trading Qualifications and Practices”)
Position Limits, Position Accountability and Reportable Level Table
(attached under separate cover)

Exhibit C
Exchange Fees

| Exchange Fees | Member | Non-Member |
|---------------------------------------|---------------|-------------------|
| CME Globex | \$0.70 | \$1.50 |
| Block | \$1.85 | \$2.65 |
| EFR/EOO | \$1.85 | \$2.65 |
| Processing Fees | Member | Non-Member |
| Cash Settlement | \$0.90 | \$1.15 |
| Facilitation Fee | | \$0.60 |
| Give-Up Surcharge | | \$0.05 |
| Position Adjustment/Position Transfer | | \$0.10 |

Exhibit D
NYMEX Rulebook
Chapter 5
(“Trading Qualifications and Practices”)
Rule 588.H. (“Globex Non-Reviewable Trading Ranges”) Table

| Instrument | Globex Symbol | Outrights | | | Spreads | |
|--|---------------|--|--------------------|--------------------|--------------------|--------------------|
| | | Globex Non-Reviewable Ranges (NRR) | NRR: Globex Format | NRR: Minimum Ticks | NRR: Globex Format | NRR: Minimum Ticks |
| <u>WTI-Brent Crude Oil Cross-Month Spread Option – (1 Month)</u> | <u>BVX</u> | <u>The greater of the following:</u> <ul style="list-style-type: none"> •<u>Delta multiplied by the underlying futures non-reviewable range</u> •<u>20% of premium up to ¼ of the underlying futures non-reviewable range</u> | | | | |

Exhibit E
NYMEX Rulebook
Chapter 5
(“Trading Qualifications and Practices”)
Rule 589. – Special Price Fluctuation Limits and Daily Price Limits Table

| Product | Rulebook Chapter | Commodity Code | Primary/ Associated | Associated With | Dynamically Calculated Variant | Daily Price Limit |
|---|---------------------|---------------------|----------------------------|--------------------|--------------------------------|-------------------|
| WTI-Brent Crude Oil Cross-Month Spread Option | 380 | BVX | Associated | CL | | |

Exhibit F
NYMEX Rulebook
Chapter 300
(“Options Contracts”)
Rule 300.20.- Strike Price Listing and Exercise Procedure Table

| Commodity Code | CME Globex Code | Product Name | Product Group | Product Subgroup | Exchange | Rulebook Chapter | Strike Price Listing Rule | Option Style | Contrary Instructions | Margin Style | Exact At-The-Money Characteristi | Underlying Commodity Code | Underlying Product Name |
|----------------|-----------------|---|---------------|------------------|----------|------------------|--|--------------|-----------------------|--------------|----------------------------------|---------------------------|--|
| BVX | BVX | WTI-Brent Crude Oil Cross-Month Spread Option (1-Month) | Energy | Crude Oil | NYMEX | 380 | Minimum 10 strikes at \$0.25 per barrel increment above and below the at-the-money strike plus dynamic strikes at \$0.25 per barrel increment for the nearest 36 months. Dynamic strikes only at \$0.25 per barrel increment for months 37+. | European | No | Equity | N/A - Financially Settled | BVX | WTI-Brent Crude Oil Cross-Month Spread (1-Month) |

Exhibit G

Cash Market Overview and Analysis of Deliverable Supply

New York Mercantile Exchange, Inc. (“NYMEX” or “Exchange”) shall list the WTI-Brent Crude Oil Cross-Month Spread Option – (1 Month) contract (code: BVX), for trading on the CME Globex electronic trading platform (“CME Globex”) and for submission for clearing via CME ClearPort.

WTI at Cushing, Oklahoma

Appendix C to part 38 of the Commission’s regulations defines deliverable supply as “the quantity of the commodity meeting the 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.”

I. Methodology and Data Sources

The Exchange considered three (3) components in evaluating deliverable supply estimates of the Domestic Light Sweet Common Stream Crude Oil for the Cushing, Oklahoma delivery location of the Light Sweet Crude Oil Futures contract:

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

While crude oil production information is, in part, available from other sources, particularly at the state level from energy or tax revenue authorities, the Exchange determined to use production information collected by the U.S. Department of Energy (“DOE”) Energy Information Administration (“EIA”). Specifically, the Exchange has chosen to rely on the EIA production data because it constitutes a single source, employing common standards, across all states. 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.

A. 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.

B. Crude Oil Storage in the Cushing Delivery Area

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

Nonetheless, NYMEX includes only inventories reported at Cushing, so these underestimate relevant storage. As with production, EIA does not provide details on the quality characteristics of stored crude oil, but the industry experts with whom NYMEX consulted consistently estimated that 60% to 70% of the crude oil stored at Cushing qualified as Domestic Light Sweet Common Stream (to be conservative, the Exchange will discount 40% of inventory in its calculation of deliverable supply estimates).

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

The Cushing physical delivery mechanism is comprised of a network of nearly two dozen pipelines and 12 storage terminals, with extensive inter-connectivity. Three of the storage facilities — Enterprise, Enbridge, and Plains — and their pipeline manifolds are the core of the Cushing physical delivery mechanism.¹ Physical volumes delivered against the Light Sweet Crude Oil Futures contract within the Enterprise, Enbridge, and Plains 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 Light Sweet Crude Oil Futures contract are fulfilled by delivering WTI type light sweet crude oil designated as “Domestic Common Stream” by Enterprise Products LLC. Market participants commonly refer to the light sweet deliverable streams as “WTI.” In addition, the Domestic Common Stream includes a fungible blend of light sweet streams produced in the U.S. shale oil areas, including the Bakken, Niobrara, and Permian producing areas. Furthermore, each of these light sweet crude oil streams is fungibly blended and included as part of the “Domestic Common Stream” within the complex that comprises the Cushing delivery mechanism, as well as in the WTI physical market which calls for delivery in the Cushing delivery mechanism.

III. Physical Market Trading Structure and Term Contracts

A. Physical Market Trading Structure

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

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

As discussed above, the Cushing delivery market is essentially a major reseller market where buyers either: resell the oil to someone else; store the oil and resell it later; store the oil and then consume it later; or transport it to consume it. The Cushing market is essentially downstream of first-sales. Most of the sales in the Cushing market are for resale and not for either storage or final-sale; in fact, the physical market in “WTI,” in which the standard form of delivery is within the pipeline system at Cushing, is estimated to be 10-20 times the multiple of “WTI” oil that flows to Cushing. As such, it is clear that most sales are for resale because they constitute the selling, over-and-over (thus, *re-selling*), of the base physical oil that flows to Cushing. *Argus Media* documents about 5-8 times the flow in “WTI” sales but does not capture all of the sales.²

¹ Three of the major sources for the cash-market information provided herein are 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, with Plains added as a delivery option in February 2022. Plains and Enbridge account for about 60% of the storage available at Cushing.

² 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 or higher (240,000 futures contracts equivalent or higher).

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.³ 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.
- 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.
- Some end-user refiners in the Cushing market purchase specific light sweet crude oil streams, such as Bakken or Niobrara Light Sweet crude oil, on a term basis, and these refiners tend to segregate a portion of the specific light sweet crude streams for processing at their refineries. Based on conversations with refiners in the Cushing market, the Exchange estimates that approximately 10% of the deliverable supply for Cushing is segregated and designated for use by end-user refiners, and therefore is not available for re-sale in the Cushing market. Consequently, the Exchange will reduce its estimate of deliverable supply in Cushing by 10% to account for the specific light sweet streams that are designated for processing and segregated by the end-user refiners.
- Our sources expressly advised us that any production sold long-term was available for potential re-sale, such as during periods of refinery maintenance, and this is especially the case in the Cushing market.

C. Crude Oil Production

The production area that supplies crude oil to Cushing via pipeline and rail is comprised of the following eight (8) states: North Dakota, Montana, Wyoming, Colorado, New Mexico, Onshore Texas, Oklahoma, and Kansas.

In the three (3)-year period of August 2020 through July 2023, the average production of crude oil available in the eight states was approximately 8.75 million barrels per day. 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% or higher— i.e., approximately 4.4 million barrels per day. The 4.4 million barrels per day of crude oil production is equivalent to approximately 131.3 million barrels per month, or 131,300 futures contracts equivalents (contract size: 1,000 barrels).

Table 1 below provides annual production data available for production in the eight states that supply the Cushing crude oil market for the period referenced above. The data show that production has been rising.

³ These include: Plains All America, a major Midcontinent aggregator and marketer and operator of pipeline and storage terminals including in Cushing; and an Energy Market Participant Group of several dozen market participants organized through Hunton & Williams LLP to discuss and comment on Regulatory issues.

As indicated above, the Exchange has determined to not utilize production data in its deliverable supply estimate, but the data demonstrates that production levels are more than sufficient to support the actual flows of deliverable product to the delivery location.

D. Crude Oil Flows to the Cushing Delivery Area

As of October 2023, there is approximately 4.1 million b/d of inflow pipeline capacity to Cushing and 3.2 million barrels per day of outflow capacity.

The Exchange collects inbound Cushing crude oil flows periodically but not on an on-going or scheduled basis as such information is proprietary and non-public. Based on information provided by industry sources in Table 2 below, as of December 2020, actual flows of crude oil to Cushing have ranged from 2.3 million to 2.6 million barrels per day, with Domestic Light Sweet Common Stream Crude Oil averaging between 1.3 to 1.5 million barrels per day.⁴ On a 30-day monthly basis, actual flows of Domestic Light Sweet Common Stream Crude Oil ranged from 39 to 46.5 million barrels per month, or 39,000 to 46,500 Light Sweet Crude Oil futures contract equivalents.

As of July 2018, actual flows of crude oil in-bound to Cushing have ranged from 2.2 million to 2.5 million barrels per day as shown in Table 3 below, with Domestic Light Sweet Common Stream Crude Oil averaging between 1.270 to 1.450 million barrels per day.⁵ On a 30-day monthly basis, actual flows of Domestic Light Sweet Common Stream Crude Oil ranged from 38.0 to 43.5 million barrels per month, or 38,000 to 43,500 Light Sweet Crude Oil futures contract equivalents.

As of March 2015, estimated in-bound flows of Domestic Light Sweet Common Stream Crude Oil into Cushing averaged between 920,000 and 1,000,000 barrels per day as illustrated in Table 4 below. On a 30-day monthly basis, actual flows of Domestic Light Sweet Common Stream Crude Oil were 27.6 million to 30.0 million barrels per month or 27,600 to 30,000 Light Sweet Crude Oil Futures contract equivalents.

Given that the Exchange only collects pipeline flow data on a periodic basis, the Exchange is unable to provide a three-year average of Domestic Light Sweet Common Stream Crude Oil flows into Cushing. As such, the Exchange determined to average the 2015, 2018 and 2020 estimated flows data collected. The average of the ranges for 2015, 2018 and 2020 for Domestic Light Sweet Common Stream Crude Oil flows into Cushing are 35,000 to 40,000 contract equivalents. The midpoint of the average of the ranges is approximately 37,500 contract equivalents.

E. Crude Oil Storage in the Cushing Delivery Area

As of March 2023, EIA reported that shell storage capacity at Cushing was 98.695 million barrels and working storage capacity was 77.99 million barrels.⁶ Currently, there is substantial excess working capacity at Cushing (approximately 56 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 84.9% average underlying the EIA estimates).

Table 5 below provides monthly averages of weekly Cushing stocks for the inventory period beginning October 2, 2020 through September 29, 2023 ("the inventory period") as published by the EIA. For the three-year average over the inventory period, stocks averaged 35.592 million barrels and on a weekly basis ranged from about 22 million to 60 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

⁴ The sources were various pipeline operators and other industry sources.

⁵ The sources were: Plains All America, an aggregator and marketer of crude oil production and pipeline and storage terminal operator at Cushing; and other industry sources.

⁶ <https://www.eia.gov/petroleum/storagecapacity/storagecapacity.xlsx> - Table 2. 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.

estimated that approximately 60% of the total oil stored at Cushing qualified as Domestic Light Sweet Common Stream Crude Oil. Based on the foregoing, for the inventory period, the monthly average Domestic Light Sweet Common Stream Crude Oil stored at Cushing was approximately 21.355 million barrels or 21,355 futures contract equivalents.

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.⁷ This converts into discounting an estimated 1.44 million barrels of Domestic Light Sweet crude oil based on the three-year average storage level (or 1,440 contract equivalents). In applying a discount of 6.75% to account for operational minimums, average monthly Domestic Light Sweet Common Stream Crude Oil for the inventory period is further reduced to approximately 19,914 contract equivalents.

With respect to commercial practices, the Exchange specifically sought whether storage customers were expressly allotting any stored barrels at Cushing for refining that were, therefore, unavailable for secondary market delivery. We consistently heard from market participants that was not the case; that barrels stored at Cushing are not specifically targeted for scheduled refining. Rather, refiners typically store barrels targeted for scheduled refining in tanks on the premises at their respective refineries or at other storage facilities. However, we did hear from one refiner that they keep barrels stored at Cushing for the contingency that there could be some unexpected interruption in their refinery supply; and, rather than refine the barrels stored at Cushing, they use them to trade for other barrels they would refine. Thus, the Exchange determined to further reduce the average monthly Domestic Light Sweet Common Stream crude oil stored at Cushing to account for this *contingency storage* in our estimate of deliverable supply. We estimate this quantity to be 2 million barrels (or 2,000 contract equivalents) of Domestic Light Sweet crude oil. Therefore, for the inventory period, the Exchange estimates stored product at Cushing (adjusted for quality specifications, operational minimums and contingency storage) and which is readily available for delivery against the Light Sweet Crude Oil Futures contract to be approximately 17,914 contract equivalents.

Analysis of WTI Cushing Deliverable Supply

Based on the above analysis, the Exchange determined at this time to base its estimates of deliverable supply on the sum of:

- Storage: 17,914 contract equivalents (which represents the average monthly inventory for the October 2, 2020 – September 29, 2023 period adjusted to account for quality specifications, operational minimums and contingency storage); and
- Inflow: 37,500 contract equivalents (which represents the midpoint of the average of the ranges of the 2015, 2018 and 2020 Domestic Light Sweet Common Stream Crude Oil flows into Cushing).

The total estimated deliverable supply, consisting of storage and pipeline inflows, 55,414 contract equivalents. Additionally, and as noted in the above analysis, the Exchange shall apply a 10% reduction to the sum of inventory storage and inflows into Cushing in order to discount segregated barrels that may be designated for processing by end-user refiners and typically not available for re-sale in the Cushing market. Therefore, after applying the 10% reduction, the Exchange has determined the estimated

⁷ 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.

deliverable supply available for delivery against the Light Sweet Crude Oil Futures contract at approximately 49,872 futures contract equivalents per month.

Analysis of Spot-Month Position Limits

The WTI-Brent Crude Oil Cross-Month Spread Option (1-Month) contract is cash-settled based on the Crude Oil Last Day Financial Futures contract (code: 26), which is based on the settlement price of the Light Sweet Crude Oil Futures contract (code: CL). For the purposes of calculating compliance with position limits, the new contract will aggregate into the Crude Oil Last Day Financial Futures contract (code: 26).

Based on the prior analysis for deliverable supply for WTI Cushing, the current spot month position limit for Light Sweet Crude Oil Futures of 6,000 contracts represents 12.0% of the total estimated monthly deliverable supply.

Table 1
U.S. Crude Oil Production⁸
For Eight States that Supply Cushing, Oklahoma
(in Thousands of Barrels per Day)

| Annual Averages based on Monthly EIA Data | | Crude Oil Production |
|---|-----------|-----------------------------|
| | | |
| <i>From</i> | <i>To</i> | <i>Thousand Barrels/Day</i> |
| Aug-20 | Jul-21 | 8079 |
| Aug-21 | Jul-22 | 8710 |
| Aug-22 | Jul-23 | 9469 |
| Three-Year Average | | 8753 |

Table 2
Crude Oil Flows to Cushing (as of December 2020)
(Barrels/Day)⁹

| Incoming Pipelines | Capacity | Owner | Estimated Flows (in Barrels/Day) |
|------------------------------------|-----------------------------|---------------------|---|
| Keystone XL (from Steele City, NE) | 760,000 | Transcanada | 400,000 – 450,000 BD (100% Heavy Sour) |
| Basin Pipeline (Permian) | 550,000 | Plains All American | 250,000 – 325,000 (90% WTI, 10% Sour) |
| Centurion North Pipeline (Permian) | 170,000 | Occidental | 40,000 – 50,000 (100% WTI) |
| Spearhead Pipeline (Canada) | 195,000 | Enbridge | 180,000 – 195,000 (100% Heavy Sour) |
| Flanagan South (Canada/Bakken) | 600,000 | Enbridge | 450,000 – 500,000 (10% WTI, 90% Heavy Sour) |
| White Cliffs Pipeline (Niobrara) | 90,000 | Rose Rock | 85,000 – 90,000 (100% WTI) |
| Cashion, OK Pipeline | 250,000 | Plains All American | 120,000 – 130,000 (100% WTI) |
| Mississippian Lime Pipeline | 150,000 | Plains All American | 70,000 – 80,000 (100% WTI) |
| Pony Express Pipeline (Niobrara) | 400,000 | Tallgrass | 350,000 – 375,000 (100% WTI) |
| Saddlehorn/Grand Mesa | 450,000 | Magellan/Plains | 225,000 – 300,000 (100% WTI) |
| Glass Mountain | 210,000 | Navigator | 50,000 – 60,000 (100% WTI) |
| Hawthorn (Stroud to Cushing) | 90,000 | Hawthorn | 25,000 – 30,000 (100% WTI) |
| SCOOP Pipeline | 70,000 | Magellan | 45,000 – 50,000 (100% WTI) |
| Great Salt Plains | 35,000 | Parnon | 25,000 – 30,000 (100% WTI) |
| Eagle North | 25,000 | Blueknight | 4,000 – 7,000 (100% WTI) |
| Red River | 35,000 | Plains All American | 1,000 – 5,000 (100% WTI) |
| TOTAL In-Bound Capacity | 4.1 Million Capacity | | WTI Flow: 1,310,000 – 1,550,000 B/D |

| Outgoing Pipelines | Capacity (B/D) | Owner |
|--------------------|----------------|-------|
|--------------------|----------------|-------|

⁸ As of 10/17/23: The production listed here includes North Dakota, Montana, Wyoming, Colorado, New Mexico, Onshore Texas, Oklahoma, and Kansas. The web link is: http://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbbldpd_a.htm

⁹ Sources: pipeline operators and other industry sources.

| | | |
|--------------------------------|---------|---------------------|
| Seaway Pipeline | 950,000 | Enterprise |
| Keystone MarketLink | 750,000 | Transcanada |
| BP#1 (to Chicago) | 180,000 | BP |
| Ozark (to Wood River, IL) | 360,000 | Enbridge |
| Osage (to Eldorado, KS) | 165,000 | Magellan/NCRA |
| Coffeyville CVR pipeline | 110,000 | CVR Energy |
| Phillips (to Ponca City, OK) | 122,000 | ConocoPhillips |
| Phillips (to Borger, TX) | 59,000 | NuStar |
| Plains Red River (to Longview) | 235,000 | Plains All American |
| Diamond Pipeline (to Memphis) | 200,000 | Plains All American |
| Sunoco (twin lines to Tulsa) | 70,000 | Sunoco |
| Magellan Tulsa | 30,000 | Magellan |

TOTAL Out-bound Capacity 3.2 Million B/D

**Table 3
Crude Oil Flows to Cushing (as of July 2018)
(Barrels/Day)¹⁰**

| Incoming Pipelines | Capacity | Owner | Estimated Flows (in Barrels/Day) |
|------------------------------------|-----------------|-----------------|---|
| Keystone XL (from Steele City, NE) | 590,000 | Transcanada | 350,000 - 400,000 BD (100% Heavy Sour) |
| Basin Pipeline (Permian) | 450,000 | Plains | 350,000 - 400,000 (80% WTI, 20% Sour) |
| Centurion North Pipeline (Permian) | 170,000 | Occidental | 120,000 - 140,000 (100% WTI) |
| Spearhead Pipeline (Canada) | 195,000 | Enbridge | 150,000 - 175,000 (100% Heavy Sour) |
| Flanagan South (Canada/Bakken) | 600,000 | Enbridge | 400,000 - 450,000 (10% WTI, 90% Heavy Sour) |
| White Cliffs Pipeline (Niobrara) | 215,000 | Rose Rock | 100,000 - 120,000 (100% WTI) |
| Plains Cashion, OK Pipeline | 250,000 | Plains | 120,000 -145,000 (100% WTI) |
| Mississippian Lime Pipeline | 150,000 | Plains | 95,000 - 100,000 (100% WTI) |
| Pony Express Pipeline (Niobrara) | 325,000 | Tallgrass | 300,000 – 325,000 (100% WTI) |
| Saddlehorn-Grand Mesa | 340,000 | Magellan/Plains | 140,000 – 150,000 (100% WTI) |
| Glass Mountain | 210,000 | Sem Group | 30,000 – 40,000 (100% WTI) |
| Hawthorn (Stroud to Cushing) | 90,000 | Hawthorn | 10,000 – 20,000 (100% WTI) |
| Great Salt Plains | 35,000 | Parnon | 30,000 – 35,000 (100% WTI) |
| Eagle North | 20,000 | Blueknight | 5,000 – 10,000 (100% WTI) |

TOTAL In-Bound Capacity 3.6 Million Capacity

WTI Flow: 1,270,000 – 1,450,000 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 |
| Ozark (to Wood River, IL) | 345,000 | Enbridge |
| Osage (to Eldorado, KS) | 165,000 | Magellan/NCRA |
| Coffeyville CVR pipeline | 110,000 | CVR Energy |
| Phillips (to Ponca City, OK) | 122,000 | ConocoPhillips |
| Phillips (to Borger, TX) | 59,000 | NuStar |
| Plains Red River Pipeline (to Longview) | 125,000 | Plains All American |
| Plains Red River Pipeline | 25,000 | Plains All American |
| Sunoco (twin lines to Tulsa) | 70,000 | Sunoco |
| Plains Cherokee | 20,000 | Plains All American |
| Magellan Tulsa | 30,000 | Magellan |
| Diamond Pipeline (to Memphis) | 200,000 | Plains |

TOTAL Out-bound Capacity 3.0 Million B/D

¹⁰ Sources: Plains All American Pipeline Company, and other industry sources.

Table 4
Crude Oil Flows to Cushing (as of March 2015)
(Barrels/Day)¹¹

| Incoming Pipelines | Capacity | Owner | Estimated Flows (in Barrels/Day) |
|------------------------------------|-----------------------------|------------------|--|
| Keystone XL (from Steele City, NE) | 575,000 | Transcanada | 200,000 - 250,000 BD (Heavy sour) |
| Basin Pipeline (Permian) | 450,000 | Plains | 250,000 (80% WTI) |
| Centurion North Pipeline (Permian) | 120,000 | Occidental | 95,000 - 100,000 (100% WTI) |
| Spearhead Pipeline (Canada) | 210,000 | Enbridge | 150,000 - 175,000 (Canadian sour) |
| Flanagan South (Canada/Bakken) | 585,000 | Enbridge | 400,000 - 450,000 (10% WTI, 90% Sour) |
| White Cliffs Pipeline (Niobrara) | 150,000 | Rose Rock | 100,000 - 120,000 (100% WTI) |
| Plains Cashion, OK Pipeline | 100,000 | Plains | 80,000 (100% WTI) |
| Mississippi Lime Pipeline | 175,000 | Plains | 110,000 (100% WTI) |
| Pony Express Pipeline (Niobrara) | 320,000 | Tallgrass | 180,000 – 200,000 (100% WTI) |
| Hawthorn (Stroud to Cushing) | 90,000 | Hawthorn | 20,000 – 25,000 (100% WTI) |
| Great Salt Plains | 30,000 | JP Energy | 15,000 – 20,000 (100% WTI) |
| Northern Cimarron | 30,000 | Rose Rock | 15,000 – 20,000 (100% WTI) |
| Midcontinent Pipeline | 30,000 | Sunoco Logistics | 25,000 – 30,000 (100% WTI) |
| Glass Mountain Pipeline | 140,000 | Rose Rock | 40,000 – 50,000 (100% WTI) |
| TOTAL In-Bound Capacity | 3.0 Million Capacity | | WTI Flow: 920,000 – 1,000,000 B/D |

¹¹ Sources: Plains All American Pipeline Company, JSK consulting, and other industry sources.

Table 5
Cushing Storage¹²
Monthly Average of Weekly EIA Stocks Data
(in Thousand Barrels)

| Month | Stock |
|---------------------|---------------|
| Sep-23 | 23,866 |
| Aug-23 | 32,069 |
| Jul-23 | 37,452 |
| Jun-23 | 42,167 |
| May-23 | 36,391 |
| Apr-23 | 33,317 |
| Mar-23 | 36,811 |
| Feb-23 | 39,973 |
| Jan-23 | 33,228 |
| Dec-22 | 24,765 |
| Nov-22 | 25,476 |
| Oct-22 | 26,735 |
| Sep-22 | 25,212 |
| Aug-22 | 25,415 |
| Jul-22 | 22,754 |
| Jun-22 | 22,340 |
| May-22 | 25,973 |
| Apr-22 | 26,931 |
| Mar-22 | 23,926 |
| Feb-22 | 25,035 |
| Jan-22 | 32,648 |
| Dec-21 | 33,767 |
| Nov-21 | 27,227 |
| Oct-21 | 30,810 |
| Sep-21 | 34,887 |
| Aug-21 | 34,084 |
| Jul-21 | 36,952 |
| Jun-21 | 42,810 |
| May-21 | 45,491 |
| Apr-21 | 46,148 |
| Mar-21 | 47,594 |
| Feb-21 | 47,298 |
| Jan-21 | 53,570 |
| Dec-20 | 58,353 |
| Nov-20 | 60,373 |
| Oct-20 | 59,464 |
| 3-yr Average | 35,592 |

¹² http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPC0_SAX_YCUOK_MBBL&f=W as of 4/21/2023

Cash Market Analysis of Brent Crude Oil

The North Sea market is comprised of a series of smaller oil fields in the UK and Norwegian North oil sectors. Each of the “satellite fields” connect into the large production systems such as Brent, Forties, Oseberg or Ekofisk. Norwegian crude oil Troll was added to the basket of Brent deliverable streams from January 2018.¹³

The most important streams in the North Sea are Brent, Forties, Oseberg, Ekofisk and Troll. Each stream has a main operator that is responsible for the day to the day control of the operations including the scheduling of the cargoes based on the production from each of the smaller producing fields. The Brent, Forties, Oseberg, Ekofisk and Troll fields collectively known as BFOET underpins the Brent complex. These crude grades make up the trading of Dated Brent – the international crude oil physical benchmark price. Brent and Forties lie in the UK sector of the North Sea with Ekofisk, Oseberg and Troll in the Norwegian sector.

Production of BFOET has been declining over the past few years due to the cost of drilling and the returns on investment compared to other regions in the world. This was one of the main reasons why the Troll crude stream was added to the Brent basket. All the Brent grades are segregated blends delivered at different locations in the North Sea, and each can be substituted by the seller in the BFOET cash market (“the forward market”).

In the Brent market there are a series of linked derivatives markets such as the short-term weekly Contract for Difference or CFDs and the longer term dated to frontline or DFL contracts. The exchange of futures for physical or EFP is the direct link between the cash and futures market and the values will tend to fluctuate depending on the relative strength or weakness in the physical Brent market. This mix of derivatives markets allows for different price risks to be fully hedged in liquid markets and supported the further development of dated Brent as a benchmark price. The cash BFOET (including WTI Midland) is assessed on a daily basis and is assessed at more regular intervals on the expiry day of the futures as the cash market trades for full cargo shipments forms the basis of the Brent index, which is used to cash settle the futures contracts in the Brent market.

Cash Brent is the core of the forward market. Cargoes are traded as monthly contracts and do not have specific loading dates attached to them. In other words, the cargoes represent the value of a cash Brent for Brent, Forties, Oseberg, Ekofisk, Troll and Midland for a specific delivery month. The seller has the right to nominate to the buyer of a forward cash BFOET cargo, one of the cargoes within the Brent basket including WTI Midland on a month ahead basis. At this point, cargoes are traded with loading dates attached and therefore, are traded as a dated Brent or dated BFOET (plus Midland cargo). The inclusion of WTI Midland has enabled seller’s option to deliver the grade under the terms of the forward contract.

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

¹³ Platts press release – Troll into Brent basket <https://www.platts.com/pressreleases/2017/022017>

affiliated; this is the standard practice, established and institutionalized since the inception of the Brent market in 1988.

To account for the nomination of WTI Midland crude oil into the Brent market, the size of each cargo assessed has been increased from 600,000 to 700,000 barrels to reflect the growing volume of export cargoes from the US Gulf coast.

In the cash Brent forward market, precise loading dates are not provided with cargoes labelled as June BFOET including WTI Midland for example. However, the commercial contracts, which are standardized, underlying the forward market to specify the minimum notification a seller must provide to a buyer is 10 days, but the standard range is between 10 days and month ahead. After a holder of a BFOET including WTI Midland forward notifies the buyer as to the loading date and which stream is being loaded, the contract is now considered to have moved from the forward market to the Dated Brent market, historically this moment is referred to as the cargo going “wet” in other words it has loading dates attached to it and can therefore be sold as a Dated Brent cargo.

Quality adjustments ensure that all the North Sea grades (including WTI Midland) can be delivered to a buyer under the standardized forward contract. There are no plans at this point to include a quality adjustment for WTI Midland crude oil. The process of moving from a forward to the physical market where a forward cargo becomes a physical North Sea Dated Brent cargo happens as follows:

1. Refiners, producers, and traders enter into a forward agreement for a specific month.
2. For the North Sea grades, the relevant operator of each field will announce the loading programs for each contract month a few days prior to the beginning of the month (one month prior) to each loading month (i.e., cargoes in the delivery month start to load).
3. For example, for a June 2023 contract month, the field operators will announce the loading schedules a few days prior to the beginning of April 2023. The equity producers will begin the chain of nominating cargoes to buyers (or they can decide to keep the cargo). A buyer benefiting from a nomination can keep the cargo or pass it to another player with whom it has another forward contract.
4. Buyers trade the cash BFOET plus WTI Midland on the basis that they will accept any cargo as nominated, provided it is done so within the agreed notice period (10 days to month ahead) by 4:00pm London time. Any cargo not nominated by this time will remain with the participant last notified. After 4:00pm London time, the cargo becomes wet physical with precise loading dates attached.
5. Cargoes that are wet physical will be sold as a Dated Brent cargo with cargo loading dates between 10 days and month ahead (forward).
6. Cargoes of WTI Midland are included as one of the delivery grades into the forward market from the June 2023 cash month. Cargoes that are nominated on a CIF delivered Rotterdam basis will have a Freight Adjustment Factor (FAF) applied which allows CIF and FOB cargoes to play an equivalent role in the Dated market. Since WTI Midland loads in the US Gulf Coast, Platts will determine the value of an FOB North Sea cargo of the grade based on 80% of the freight costs for a cargo loading on equivalent dates in the North Sea. For WTI Midland, this FAF will be applied to the sum of the cargo's freight rate from an average of the five established Dated Brent North Sea terminals to Rotterdam and associated port fees.
7. To accommodate the delivery of WTI Midland, S&P Global Platts are in discussions with some of the terminal operators in the WTI Midland crude system to include them into its Dated Brent and cash BFOE market on close assessment process for June 2023. Where a terminal is included, a seller would nominate WTI Midland meeting the Platts specification loaded from a specific terminal

for inclusion into the Dated Brent/cash BFOET assessment starting with the June 2023 delivery period. This also mirrors the same process that occurs at all the North Sea terminals. The inclusion of a US terminal is not a pre-requisite to enable the delivery of WTI Midland into the Brent delivery process.

The terms which govern the trading in the cash Brent contract are based on the General Terms and Conditions (GT&Cs) from Shell Supply and Trading. The terms are referred to under SUKO 90 as Stasco BFOETM 2022 which become effective from the June 2023 delivery month. The revised terms allow for the delivery of WTI Midland under the forward contract.¹⁴

The quality of the Forties crude oil stream changed in 2007 when a sour crude Buzzard began flowing into the blend that was delivered to the terminal. Buzzard remains the largest field within the forties pipeline system (FPS). Buzzard crude oil is a medium gravity, sour crude oil with an API of 32.6° and a sulphur content of 1.44% therefore the yield is very similar to that of Urals crude. INEOS FPS produces a monthly blend quality on a forward basis as laid out in the table below. They also provide indications to the market about the volume of forties crude oil that is expected to be made available on receipt of the data from all of the individual field operators within the FPS (see table below).

Within the North Sea and beyond, grades are traded as a differential to Dated Brent or as a differential to cash Brent (BFOET). Each of the crude oil grades within BFOET are not the same quality, several adjustments have been made. In 2007 Platts included a sulphur de-escalator for Forties crude oil within its Dated Brent and Brent related instruments. The change was made in response to inclusion of sour crude Buzzard into the Forties pipeline system (see chart 1). The de-escalator of price is applied to deliveries above a minimum sulphur level of 0.6%.

Every month, S&P Global establishes a USD and cents value de-escalator for every 0.1% of sulphur above the maximum level 0.6% (for Forties crude oil). The value of the de-escalator is established by reviewing evidence of significant and sustained changes in the crude market, as affected by refined products (crack spread values of both heavy fuel oils and light ends) and other relevant factors that affect the economics of Forties crude.

Table 1: The volume of Buzzard crude in the Forties Blend Estimates¹⁵ (updated April 2023)

| Date | Buzzard percentage in Forties | Forties Blend unstabilised crude oil (kbd) |
|------------|-------------------------------|--|
| April 2023 | 22.2% | 219.8 |
| May 2023 | 18.5% | 206.4 |
| June 2023 | 24.1% | 225.3 |
| July 2023 | 22.6% | 231.4 |

The inclusion of WTI Midland into the Brent basket by S&P Global Platts has served to shore up production in the Brent contract with all the grades assessed on a fob basis. WTI Midland is generally offered on a delivered basis Rotterdam, and it is netted back to a fob basis which enables Midland to be valued alongside all the Brent grades on equal pricing terms. It also places WTI Midland on an equivalent fob North Sea pricing basis. The transatlantic freight is deducted from the delivered price in Rotterdam and North Sea freight is added instead.

¹⁴ https://www.shell.com/business-customers/trading-and-supply/trading/general-trading-terms-and-conditions/_jcr_content/root/main/section/simple/call_to_action_456169931/links/item0.stream/1692805078655/9bff1771c5c2e79f19230207a5d3487b4551e6b1/stasco-bfoetm-2022-v1-two-revised.pdf

¹⁵ Ineos Forties Pipeline System – Forties Blend Assay <https://www.ineos.com/businesses/ineos-fps/business/forties-blend-quality/>

The latest data from the U.S. Energy Information Administration (EIA) shows that the U.S. exported a record high volume of 3.99 million barrels per day in the first half of 2023¹⁶. This level of exports was the highest since 2015. The largest destination for U.S. crude oil was Europe with volumes reaching 1.75 million barrels per day in the first half of 2023. Asia remained a key destination for U.S. crude with total exports hitting 1.68 million barrels per day over the first half of 2023.

Estimates suggest that the U.S. will produce a record 12.76 million barrels of oil in 2023 and production could rise a further 330,000 barrels per day in 2024 to reach over 13.09 million barrels per day.¹⁷

Bloomberg LP (“Bloomberg”) provides details of the BFOET loading programs for the grades that comprise the Brent market. Based on the most recent 3-year average of the Bloomberg data on BFOET loadings (from August 2020 to July 2023). To provide a volume of exports to northwest Europe, the Exchange has used data from the US EIA for Belgium, France, Germany, and the Netherlands. A reduction of 50% has been applied to the US crude oil export volumes for France as the data source does not split out the volumes being imported into northwest Europe and the Mediterranean. Therefore, the Exchange has made a conservative assumption that around half the volumes are exported to northwest Europe.

Based on the data, total loadings of Brent (BFOET) crude oil were approximately 733,667 barrels per day, which is equivalent to approximately 22.01 million barrels per month over the 3-year average period to July 2023. Looking at the U.S crude oil export data to Northwest Europe including Rotterdam, the deliverable volume for U.S. crude into the region averaged 580,556 barrels per day (including the adjustment of 50% to the French import data) which equates to 17,417 million barrels per month. To account for WTI Midland deliveries only, the total volume of US exports has been reduced by 20% to derive a net WTI Midland import figure of 464,444 barrels per day or 13.933 million barrels per month.

The Bloomberg data, in **Exhibit A**, shows the loaded volume of crude oil for Brent, Forties, Oseberg, Ekofisk and Troll (collectively known as BFOET). The volume of “net” delivered WTI Midland has also been added to this table.

The Brent market is priced in USD and cents per barrel. There are two significant Futures contracts based on trading activity in the forward BFOE market. NYMEX and ICE Futures Europe offer trading of Brent Futures on their respective Exchanges.

The cash market is traded in partials of 100,000 barrels or larger full-size cargo transactions of 700,000 barrels. Physical convergence can occur through the partials market mechanism upon the trading of seven parcels with the same counterparty in a single delivery month. If physical convergence does not occur, trades are booked out at the prevailing cash value on the last day of trading day of the cash market for the specific delivery month (this is currently month ahead prior to the 1st loading date of the delivery month). Full sized physical cargo BFOET trades will be used by ICE in the establishment of the Brent Index which is the mechanism by which the futures open on expiry are cash settled.¹⁸ The ICE Brent Index is a regulated benchmark under the UK Benchmarks (Amendment and Transitional Provision) (EU Exit) Regulations 2019.

The Dated Brent or Dated BFOET, as it is sometimes referred, reflects the value of the cheapest of Brent, Forties, Oseberg, Ekofisk and Troll (and WTI Midland), of 700,000 barrels, loading 10 days to Month Ahead. Dated Brent is estimated to price around 63% of the global exports.¹⁹ The remaining crude oil exports are priced off WTI, Dubai/Oman and Sour crude basket ASCI.

¹⁶ <https://www.eia.gov/todayinenergy/detail.php?id=60622>

¹⁷ <https://www.reuters.com/business/energy/us-crude-output-rise-record-1276-mln-bpd-2023-eia-2023-08-08/>

¹⁸ https://www.theice.com/publicdocs/futures/ICE_Futures_Europe_Brent_Index.pdf

¹⁹ <https://www.theice.com/global-crude-benchmarks-brent-sets-the-standard>

Analysis of Brent Crude Oil Deliverable Supply

Appendix C to part 38 of the Commission's regulations defines deliverable supply as "the quantity of the commodity meeting the 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."

The basis of the analysis in the Brent market is BFOET loadings in the North Sea and the volume of "net" WTI Midland crude oil exports to northwest Europe. The Exchange determined that the volume of loaded barrels of BFOE crude oil from Brent, Forties, Oseberg, Ekofisk and Troll best meets the definition of supply readily available for delivery. To account for the WTI Midland crude oil deliveries, the Exchange has looked at the published monthly crude oil export volumes by destination data from the U.S. Energy Information Administration (EIA). For the U.S. export data, the imports into Belgium, France, Germany, and the Netherlands has been used. A reduction of 50% has been applied to the US crude oil export volumes for France as the data source does not split out the volumes being imported into northwest Europe and the Mediterranean. Therefore, the Exchange has made a conservative assumption that around half the volumes are exported to northwest Europe.

To account for WTI Midland, the Exchange has applied a reduction of 20% to the total export volumes which is based on further analysis of the WTI exports with the market and on some of the shipping data which we have been provided from C-Flow. As the data is proprietary to S&P Global, the Exchange is not able to provide this data.

Based on the total volume of exports since May 2022, the average volume of WTI Midland crude oil as a percentage of total U.S. crude oil exports was 80%. Over the three-year average period to July 2023, total US exports of WTI Midland delivered to northwest Europe after applying the reduction to the total volume equated to 464,444 barrels per day or 13.933 million barrels per month. This equates to 13,933 contract equivalents.

In addition, the Exchange has reduced the deliverable supply of Forties to account for the long-term commitment for crude oil purchases by the Grangemouth refinery. The Grangemouth oil refinery is located close to the delivery point of the Forties pipeline and volumes from the outer fields are connected directly via a series of pipelines to the refinery.²⁰ Based on the most recent 3-year average of the Bloomberg data on BFOET loadings (August 2020 to July 2023), total loadings of Brent (BFOET) crude oil were approximately 733,667 barrels per day, which is equivalent to approximately 22.01 million barrels per month, or 22,010 contract equivalents (contract size: 1,000 barrels). Further, to account for the crude oil purchases by the Grangemouth refinery, the deliverable supply (using the three (3)-year average BFOET figures) would be reduced by 3 million barrels²¹ per month.²² Therefore, the total deliverable supply of BFOET is 19.010 million barrels per month or 19,010 contract equivalents. When the total volume of WTI Midland is added, the total volume of deliverable supply is calculated as 32.943 million barrels or 32,943 contract equivalents.

Based on the total monthly estimated deliverable supply of North Sea crude used in the Brent contract, the spot month position limit of 7,000 contracts equates to 21.25% of the total monthly deliverable supply.

A breakdown of the data is shown in **Exhibit A**.

²⁰ http://www.bp.com/en/global/forties-pipeline/about_fps/Technical/technical_information.html - BP Forties Pipeline system

²¹ UKPia – Petroineos Grangemouth Refinery capacity http://www.ukpia.com/industry_information/refining-and-uk-refineries/Petroineos-grangemouth-refinery.aspx

²² Market suggests 50% of the processing capacity for Grangemouth is Forties therefore we have reduced the deliverable supply of Forties by 3-million barrels per month (the full capacity of the refinery is 6 million barrels per month).

Exhibit A.

North Sea crude oil loadings for Brent, Forties, Oseberg, Ekofisk and Troll. For the total U.S. crude data, this represents the total volume of crude oil exported from the U.S. to Northwest Europe. The "net" WTI Midland represents the 20% reduction volume of the total U.S. crude exports to Northwest Europe. All volumes are shown in thousand barrels per day.

The data shown is in barrels per day and to calculate a barrels per month figure, the exchange has used a total number of 30 days per month.

The data has been split by field to show the underlying volume for each constitute grade going into the total BFOET volume by month plus the volume of WTI Midland delivered to Northwest Europe.

| | Brent | Forties | Oseberg | Troll | Ekofisk | Total US Crude Exported to NWE | "Net" WTI Midland |
|---------------------|---------------|----------------|---------------|----------------|----------------|--------------------------------|-------------------|
| 3-yr Average | 51,937 | 225,363 | 84,744 | 132,366 | 239,258 | 580,556 | 464,444 |
| Jul-23 | 45,161 | 180,645 | 67,742 | 112,903 | 248,387 | 1,028,000 | 822,400 |
| Jun-23 | 46,667 | 163,333 | 70,000 | 140,000 | 186,667 | 1,039,000 | 831,200 |
| May-23 | 58,065 | 193,548 | 77,419 | 135,484 | 251,613 | 661,000 | 528,800 |
| Apr-23 | 60,000 | 200,000 | 60,000 | 140,000 | 180,000 | 611,000 | 488,800 |
| Mar-23 | 38,710 | 232,258 | 77,419 | 96,774 | 251,613 | 920,000 | 736,000 |
| Feb-23 | 64,286 | 192,857 | 64,286 | 150,000 | 257,143 | 614,000 | 491,200 |
| Jan-23 | 38,710 | 212,903 | 77,419 | 116,129 | 251,613 | 886,000 | 708,800 |
| Dec-22 | 38,710 | 212,903 | 58,065 | 154,839 | 251,613 | 621,000 | 496,800 |
| Nov-22 | 80,000 | 200,000 | 80,033 | 180,000 | 260,000 | 623,000 | 498,400 |
| Oct-22 | 19,355 | 212,903 | 96,774 | 116,129 | 270,968 | 601,000 | 480,800 |
| Sep-22 | 20,000 | 220,000 | 40,000 | 110,000 | 220,000 | 607,000 | 485,600 |
| Aug-22 | 38,710 | 212,903 | 77,419 | 135,484 | 309,677 | 509,000 | 407,200 |
| Jul-22 | 38,710 | 193,548 | 96,774 | 154,839 | 232,258 | 1,002,000 | 801,600 |
| Jun-22 | 40,000 | 240,000 | 80,000 | 120,000 | 40,000 | 652,000 | 521,600 |
| May-22 | 58,065 | 232,258 | 96,774 | 116,129 | 212,903 | 459,000 | 367,200 |
| Apr-22 | 40,000 | 260,000 | 80,000 | 100,000 | 200,000 | 575,000 | 460,000 |
| Mar-22 | 58,065 | 251,613 | 96,774 | 135,484 | 232,258 | 416,000 | 332,800 |
| Feb-22 | 42,857 | 235,714 | 64,286 | 150,000 | 214,286 | 542,000 | 433,600 |
| Jan-22 | 58,065 | 270,968 | 96,774 | 154,839 | 232,258 | 343,000 | 274,400 |
| Dec-21 | 38,710 | 251,613 | 96,774 | 96,774 | 270,968 | 768,000 | 614,400 |
| Nov-21 | 40,000 | 260,000 | 80,000 | 160,000 | 260,000 | 759,000 | 607,200 |
| Oct-21 | 38,710 | 290,323 | 96,774 | 154,839 | 251,613 | 416,000 | 332,800 |
| Sep-21 | 60,000 | 200,000 | 80,000 | 160,000 | 240,000 | 438,000 | 350,400 |
| Aug-21 | 58,065 | 212,903 | 77,419 | 135,484 | 251,613 | 406,000 | 324,800 |
| Jul-21 | 38,710 | 251,613 | 96,774 | 135,484 | 251,613 | 356,000 | 284,800 |
| Jun-21 | 80,000 | 20,000 | 100,000 | 160,000 | 200,000 | 494,000 | 395,200 |
| May-21 | 38,710 | 174,194 | 96,774 | 96,774 | 270,968 | 373,000 | 298,400 |
| Apr-21 | 60,000 | 220,000 | 80,000 | 80,000 | 260,000 | 495,000 | 396,000 |
| Mar-21 | 58,065 | 251,613 | 96,774 | 154,839 | 251,613 | 279,000 | 223,200 |
| Feb-21 | 64,286 | 278,571 | 85,714 | 150,000 | 257,143 | 856,000 | 684,800 |
| Jan-21 | 77,419 | 270,968 | 96,774 | 135,484 | 270,968 | 181,000 | 144,800 |
| Dec-20 | 77,419 | 270,968 | 116,129 | 135,484 | 290,323 | 532,000 | 425,600 |
| Nov-20 | 60,000 | 280,000 | 80,000 | 140,000 | 220,000 | 443,000 | 354,400 |
| Oct-20 | 77,419 | 290,323 | 96,774 | 135,484 | 232,258 | 389,000 | 311,200 |
| Sep-20 | 60,000 | 220,000 | 100,000 | 80,000 | 260,000 | 409,000 | 327,200 |
| Aug-20 | 58,065 | 251,613 | 116,129 | 135,484 | 270,968 | 597,000 | 477,600 |

Source: Bloomberg data for the North Sea data and U.S. EIA for the WTI export data

Analysis of Spot-Month Position Limits

Spot-month position limits for Brent do not apply as the WTI-Brent Crude Oil Cross-Month Spread Option (1-Month) contract expires prior to the spot-month period for Brent.