

**BP PIPELINES (ALASKA) INC. (BP)
LOCAL PIPELINE TARIFF**

CONTAINING THE TAPS
QUALITY BANK METHODOLOGY

GENERAL APPLICATION

This tariff shall apply only to those tariffs which specifically incorporate this tariff, and successive issues hereof, by reference.

NOTICES

This tariff is issued in part to comply with the orders issued by the Federal Energy Regulatory Commission in *Trans Alaska Pipeline System*, 113 FERC ¶ 61,062 (2005) (Opinion No. 481); 114 FERC ¶ 61,323 (2006) (Opinion No. 481-A); 115 FERC ¶ 61,287 (2006) (Opinion No. 481-B), and with the orders issued by the Regulatory Commission of Alaska (“RCA”) in *In re Formal Complaint of Tesoro Alaska Petroleum Co.*, P-89-1(104)/P-89-2(98)/P-94-4(37)/P-96-6(24)/P-98-9(16)/P-99-12(19) (2005); P-89-1(109)/P-89-2(103)/P-94-4(42)/P-96-6(29)/P-98-9(21)/P-99-12(24) (2006); P-89-1(111)/P-89-2(105)/P-94-4(44)/P-96-6(31)/P-98-9(23)/P-99-12(26) (2006).

For rules and regulations other than the TAPS Quality Bank Methodology tariff, see F.E.R.C. No. 42.0.0 (BP), and reissues thereof.

The provisions published herein will, if effective, not result in an effect on the quality of the human environment.

[N] The decreases shown in Attachment 2 to the tariff will be effective from February, 2020, forward. The Quality Bank Administrator will provide to Shipper revised schedules for each month showing the impact of the decreases and the resulting Quality Bank adjustments.

REQUEST FOR SPECIAL PERMISSION

Issued on [W] ~~five~~ ~~four~~ days’ notice under authority of 18 C.F.R. § 341.14. This tariff publication is conditionally accepted subject to refund pending a 30-day review period.

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TABLE OF CONTENTS

I.	GENERAL PROVISIONS	3
A.	Definitions	3
B.	Quality Bank Administrator	4
C.	Information Furnished to the State of Alaska.....	4
D.	Information Furnished to Carrier by Shipper	5
II.	QUALITY ADJUSTMENTS	5
A.	Quality Adjustments	5
B.	Methodology.....	5
C.	Payment Provisions	7
III.	QUALITY BANK PROCEDURES	8
A.	Overview	8
B.	Quality Bank Streams at Pump Station No. 1 Quality Bank.....	8
C.	Quality Bank Streams at GVEA Quality Bank	9
D.	Quality Bank Streams at Petro Star Valdez Refinery Connection Quality Bank.....	9
E.	Methodology for Valdez Tanker Load Out Quality Bank.....	9
F.	Methodology For Pump Station No. 1, GVEA Connection and PSVR Connection.....	10
G.	Component Unit Value Procedure.....	12
H.	Quality Bank Stream Component Calculation Procedure	14
I.	Quality Bank Calculations Procedure	14
J.	Unanticipated Implementation Issues.....	14

TAPS QUALITY BANK METHODOLOGY

I. GENERAL PROVISIONS

A. Definitions

“Barrel” – as used herein means forty-two (42) U.S. gallons at sixty degrees (60°) Fahrenheit and atmospheric pressure.

“Carrier” – as used herein means BP Pipelines (Alaska) Inc., ConocoPhillips Transportation Alaska, Inc., ExxonMobil Pipeline Company, Unocal Pipeline Company, the successor to any of them, and/or a pipeline company which may, by proper concurrence, be a party to a joint tariff incorporating this tariff by specific reference.

“Connection” – as used herein means a connection to TAPS (other than at Pump Station No. 1) for the purpose of receiving Petroleum into TAPS.

“Connection Base Petroleum” – as used herein means the Petroleum resulting from the commingling of (1) the Petroleum entering TAPS at a Connection and (2) the Petroleum in TAPS just upstream of the point of entry into TAPS at that Connection.

“Gravity” – as used herein means the gravity of Petroleum expressed in API degrees at sixty degrees (60°) Fahrenheit.

“Gravity Differential Value Per Barrel” – as used herein means the gravity differential value set forth in Section II, Item No. B(3)(iii), as established from time to time in accordance with Section III, Item E.

“GVEA” – as used herein means the Golden Valley Electric Association.

“LSR” – as used herein means Light Straight Run.

“Month or Monthly” – as used herein means a calendar month commencing at 0000 hours on the first day thereof and running until 2400 hours on the last day thereof according to Valdez, Alaska, local time.

“OPIS” – as used herein means Oil Price Information Service.

“Petroleum” – as used herein means unrefined liquid hydrocarbons including gas liquids.

“Platts” – as used herein refers to Platts Oilgram Price Report.

“PSVR” – as used herein means the Petro Star Valdez Refinery.

“Pump Station No. 1” – as used herein means the pump station facilities near Prudhoe Bay, Alaska where Petroleum is received into TAPS.

“Pump Station No. 1 Base Petroleum” – as used herein means the Petroleum stream resulting from deliveries into TAPS at Pump Station No. 1 by all Shippers.

“Quality Bank Administrator” – as used herein means the person appointed by the TAPS Carriers to administer the Quality Bank.

“Quality Bank Value” – as used herein means the value of each Petroleum stream as calculated in Section III.

“Shipper” – as used herein means a party who tenders Petroleum to Carrier for transportation and thereafter actually delivers Petroleum to Carrier for transportation.

“State” – as used herein means the State of Alaska.

“STUSCO” – as used herein means Shell Trading (US) Company.

“TAPS” – as used herein means the Trans Alaska Pipeline System.

“TBP” – as used herein means True Boiling Point.

“Valdez Terminal” – as used herein means the TAPS terminal located at Valdez, Alaska.

“Valdez Terminal Base Petroleum” – as used herein means the Petroleum delivered out of the Valdez Terminal.

“Volume” – as used herein means a quantity expressed in Barrels.

“Weighted Average” – as used herein means an average calculated on a Volume weighted basis.

B. Quality Bank Administrator

The TAPS Quality Bank shall be administered by the Quality Bank Administrator, who shall be appointed by the TAPS Carriers, and by those designated by the Quality Bank Administrator to assist the Administrator.

C. Information Furnished to the State of Alaska

The Quality Bank Administrator shall furnish to the State each month copies of the invoices for Quality Bank adjustments and supporting data sent to each shipper. Such information is furnished to the State based upon the State’s representation that it will hold such information in confidence and that such information will be used only by officers or agents of the State in the exercise of the officers’ or agents’ powers.

D. Information Furnished to Carrier by Shipper

Carrier and its designee are authorized by Shipper to receive through measurement, connecting carriers or otherwise all information and data necessary to make the computations under Section II. Shipper will furnish Carrier or its designated Quality Bank Administrator, and consents to Carrier or its designated Quality Bank Administrator acquiring from other carriers or other persons, any additional information and data necessary to make the computations under Section II. Shipper also consents to Carrier or its agents disclosing to the designated Quality Bank Administrator all information and data necessary to make the computations under Section II. The name and address of Carrier's designated Quality Bank Administrator will be made available upon written request to Carrier.

II. QUALITY ADJUSTMENTS

A. Quality Adjustments

Shippers shall be debited and/or credited for all adjustments as provided for in this Section II with respect to all Petroleum shipped. The calculation of Shipper's debits and credits shall be made for each Month as required herein. The credit and debit balances for each accounting shall be adjusted among Shipper and all Shippers in TAPS by collecting funds from those Shippers (including Shipper, if applicable) having debit balances and by thereafter remitting funds collected to the Shippers (including Shipper, if applicable) having credit balances. In the event of delay in collection or inability to collect from one or more Shippers for any reason, only adjustment funds and applicable interest charges actually collected shall be distributed pro rata to Shippers having credit balances. A Monthly accounting shall be rendered to Shipper after the end of each Month.

B. Methodology

Shipper authorizes Carrier or its designee to compute adjustments among all Shippers in TAPS for quality differentials arising out of TAPS common stream operation. Shipper agrees to pay Carrier or its designee the adjustment due from Shipper determined in accordance with the procedures set out in this Section II.

The procedures for determining quality adjustments among all Shippers are specified in detail in the TAPS Quality Bank Methodology set forth in Section III.

As prescribed in detail in Section III, at the close of each Month, Carrier or its designated Quality Bank Administrator shall compute adjustments calculated as follows:

1. Pump Station No. 1 Adjustment - An adjustment based on the difference between the Quality Bank Value of Pump Station No. 1 Base Petroleum during a Month and the Quality Bank Value of Petroleum received into TAPS at Pump Station No. 1 for a Shipper during the same Month shall be calculated as follows:
 - (i) the Quality Bank Value per Barrel of each stream received into TAPS at Pump Station No. 1 during the Month for a Shipper shall be determined by

summing the Quality Bank Values of each component of one Barrel of that stream as determined in accordance with the TAPS Quality Bank Methodology.

- (ii) the Quality Bank Value per Barrel of the Pump Station No. 1 Base Petroleum for the Month shall be determined by multiplying the Quality Bank Value per Barrel of each stream received into TAPS at Pump Station No. 1 during that Month by the number of Barrels of that stream received into TAPS at Pump Station No. 1 during that Month, summing the products so obtained and dividing the total by the number of Barrels of Petroleum received into TAPS at Pump Station No.1 during the Month.
 - (iii) if the Quality Bank Value per Barrel of the Pump Station No. 1 Base Petroleum for any Month is greater than the Quality Bank Value per Barrel of a stream of Petroleum received into TAPS at Pump Station No. 1 during the same Month for a Shipper, such Shipper shall be debited an amount calculated by multiplying such difference by the number of Barrels of such Petroleum received into TAPS for such Shipper at Pump Station No. 1 during that Month.
 - (iv) if the Quality Bank Value per Barrel of Pump Station No. 1 Base Petroleum for any Month is less than the Quality Bank Value per Barrel of a stream of Petroleum received into TAPS at Pump Station No. 1 during the same Month for a Shipper, such Shipper shall be credited an amount calculated by multiplying such difference by the number of Barrels of such Petroleum received into TAPS for such Shipper at Pump Station No. 1 during that Month.
2. Connection Adjustment - An adjustment based on the difference between the Quality Bank Value of any Connection Base Petroleum during a Month and the Quality Bank Value of a Shipper's Petroleum commingled at that Connection during the same Month shall be calculated as follows:
- (i) the Quality Bank Value per Barrel of a Shipper's Petroleum commingled at a Connection during the Month shall be determined by summing the Quality Bank Values of each component of one Barrel of that Petroleum as determined in accordance with the TAPS Quality Bank Methodology.
 - (ii) the Quality Bank Value per Barrel of any Connection Base Petroleum for the Month shall be the Weighted Average Quality Bank Value of (1) the Petroleum entering TAPS at a Connection during the Month and (2) the Petroleum in TAPS just upstream of the point of entry into TAPS at that Connection during the Month.
 - (iii) if the Quality Bank Value per Barrel of any Connection Base Petroleum for any Month is greater than the Quality Bank Value per Barrel of a Shipper's Petroleum commingled at that Connection during the same Month, such Shipper shall be debited an amount calculated by multiplying

such difference by the number of Barrels of such Shipper's Petroleum commingled at that Connection during that Month.

- (iv) if the Quality Bank Value per Barrel of any Connection Base Petroleum for any Month is less than the Quality Bank Value per Barrel of Shipper's Petroleum commingled at that Connection during the same Month, such Shipper shall be credited an amount calculated by multiplying such difference by the number of Barrels of such Shipper's Petroleum commingled at that Connection during that Month.

3. Valdez Terminal Gravity Adjustment - An adjustment based on the difference between the Weighted Average Gravity of the Valdez Terminal Base Petroleum and the Weighted Average Gravity of Petroleum received out of the Valdez Terminal by a Shipper shall be calculated as follows:

- (i) if the Weighted Average Gravity of the Valdez Terminal Base Petroleum for any Month is greater than the Weighted Average Gravity of Petroleum received out of the Valdez Terminal during the same Month by a Shipper, such Shipper shall be credited an amount calculated by multiplying such difference by the Gravity Differential Value Per Barrel and multiplying that total by the number of Barrels of such Petroleum received out of the Valdez Terminal during that Month by such Shipper.
- (ii) if the Weighted Average Gravity of the Valdez Terminal Base Petroleum for any Month is less than the Weighted Average Gravity of Petroleum received out of the Valdez Terminal during the same Month by a Shipper, such Shipper shall be debited an amount calculated by multiplying such difference by the Gravity Differential Value Per Barrel and multiplying that total by the number of Barrels of such Petroleum received out of the Valdez Terminal during that Month by such Shipper.
- (iii) The Gravity Differential Value Per Barrel is established at [U] \$0.0356 for each one-tenth degree API Gravity (0.1° API).

C. Payment Provisions

In addition to the adjustments described in this Section II, Shipper agrees to pay Carrier or its designee a per Barrel charge to reimburse Carrier for the costs of administering the adjustments among Shippers under this Section II.

In the event any payment is made to Shipper hereunder and it is subsequently determined by any Federal or state court, administrative agency or other governmental entity having jurisdiction that no other Shipper was liable for the adjustment for which payment was made, Shipper receiving such payment shall upon receipt of an accounting from Carrier return the same to Carrier or its designee. Carrier shall promptly utilize same to reimburse all Shippers who made such payments.

All payments due from Shipper under this Section II shall be made by Shipper within 20 days of receipt of each accounting and, for any delay in payment beyond such 20 day period, shall bear interest calculated at an annual rate equivalent to 125% of the prime rate of interest of Citibank N.A. of New York, New York, on ninety-day loans to substantial and responsible commercial borrowers as of the date of accounting, or the maximum rate allowed by law, whichever is less.

If Shipper fails to make payment due hereunder within thirty (30) days of issuance of each accounting, Carrier shall have the right to sell at public auction either directly or through an agent at any time after such thirty (30) day period any Petroleum of Shipper in its custody. Such auction may be held on any day, except a legal holiday, and not less than forty-eight (48) hours after publication of notice of such sale in a daily newspaper of general circulation published in the town, city or general area where the sale is to be held, stating the time and place of sale and the quantity and location of Petroleum to be sold. At said sale Carrier shall have the right to bid, and, if it is the highest bidder, to become the purchaser. From the proceeds of said sale, Carrier will deduct all payments due and expenses incident to said sale, and the balance of the proceeds of the sale remaining, if any, shall be held for whomsoever may be lawfully entitled thereto.

Adjustment payments and administrative costs in this Section II are not a part of Carrier's transportation tariff rates, and such shall not be an offset or other claim by Shipper against sums due Carrier for transportation or other charges, costs, or fees due or collected under Carrier's tariffs.

III. QUALITY BANK PROCEDURES

A. Overview

A distillation-based methodology shall be implemented at all TAPS Quality Banks (other than the TAPS Valdez Marine Terminal Quality Bank).

This methodology for calculation of the TAPS Quality Bank debits and credits is based on valuations of Petroleum components. This methodology shall apply to the specific Petroleum streams identified in Sections III.B, III.C. and III.D. and also shall be applied to any streams tendered to TAPS through a new connection. The Quality Bank value of each Petroleum stream shall be the volume-weighted sum of the Quality Bank values of its components. The characteristics and volumes of components for each separate Petroleum stream are based on assay information obtained using a defined set of testing procedures as set forth in Section III.F. Quality Bank credits and debits are determined by comparing the Quality Bank value of each Petroleum stream to the appropriate calculated TAPS "reference" stream Quality Bank value.

B. Quality Bank Streams at Pump Station No. 1 Quality Bank

1. The TAPS Pump Station No. 1 Quality Bank assesses the following four streams: (1) PBU IPA;¹ (2) Lisburne; (3) Kuparuk Pipeline; and (4) Northstar.

2. The Pump Station No. 1 Quality Bank reference stream is the blended common stream leaving Pump Station No. 1. The reference stream Quality Bank value is

¹ PBU IPA is the abbreviation for the Prudhoe Bay Unit Initial Participating Areas.

calculated using the volume weighted average of the four Quality Bank streams identified above plus any streams tendered to TAPS through a new Pump Station No. 1 connection.

C. Quality Bank Streams at GVEA Quality Bank

1. The GVEA Quality Bank streams are the Petro Star refinery return stream delivered to TAPS by the GVEA Pipeline and the passing TAPS common stream at the GVEA offtake point, both of which are measured at the GVEA connection.

2. The GVEA Quality Bank reference stream is the blended TAPS stream immediately downstream from the GVEA return stream connection. The reference stream Quality Bank value is calculated using the volume weighted average of the GVEA Quality Bank streams identified above.

D. Quality Bank Streams at Petro Star Valdez Refinery Connection Quality Bank

1. The TAPS PSVR Connection Quality Bank streams are the refinery return stream delivered to TAPS by Petro Star and the passing TAPS common stream at the PSVR offtake point.

2. The Petro Star Valdez Quality Bank reference stream is the blended TAPS stream immediately downstream from the Petro Star return stream connection. The reference stream Quality Bank value is calculated using the volume weighted average of the two PSVR Quality Bank streams identified above.

E. Methodology for Valdez Tanker Load Out Quality Bank

1. A gravity-based Quality Bank methodology shall be used to determine the TAPS Quality Bank adjustments for volumes loaded out of the TAPS Marine Terminal at Valdez, Alaska. A Gravity Differential Value Per Barrel shall be calculated as specified in Items E.2 through E.5 below.

2. The daily average six month gravity differentials posted for November 1 - April 30 and May 1 - October 31 for California and West Texas Sour crude oils, applicable to the range(s) of gravity which includes the average API gravity of the TAPS commingled stream at Valdez (sometimes referred to as "ANS"), shall be determined. The postings of the following company shall be used for West Texas Sour crude oils: STUSCO. The postings of the following companies shall be used for California crude oils: Chevron Crude Oil Marketing, Exxon Mobil Corporation, STUSCO and Union 76. In the event that any of the aforementioned companies is merged or acquired by other companies, sells assets or reorganizes, the postings of any successor companies shall be utilized. As long as at least two companies' gravity differentials are posted in each region (West Texas and California), the postings shall be averaged to determine the gravity differentials for that region.

3. The aforementioned six-month average gravity differentials for the specified companies in each region shall be used to derive a simple average West Texas Sour differential and a simple average California differential.

4. The average West Texas Sour differential and the average California differential shall then be weighted by the percentage of ANS which is distributed east of the Rockies (including Puerto Rico and the Virgin Islands) and to the West Coast (including Alaska and Hawaii), respectively, which percentages were last determined in 2011 by averaging the percentage distributed to each region as was last reported by the Maritime Administration of the United States Department of Transportation in September 2011 . Volumes exported from the United States shall be excluded from the calculation of the percentages distributed to each region. Percentages provided by the Maritime Administration of the United States Department of Transportation for the period from 1999 to 2011 indicated that 100 percent of ANS was delivered to the West Coast, which is the percentage that will continue in effect until further notice.

5. In the event that ANS is transported by pipeline from the West Coast to destinations east of the Rockies, the weighting of the average differentials shall be adjusted to reflect the percentage of ANS actually distributed to such regions both by vessel and pipeline. If such data regarding the destination of ANS transported by pipeline are not publicly available , the Quality Bank Administrator shall use the percentage of ANS distributed to such regions last used, provided, however, that any shipper may protest such determination by filing a complaint with the Quality Bank Administrator and thereafter filing an appropriate pleading with the FERC and RCA if the complaint is not otherwise resolved.

6. The Gravity Differential Value Per Barrel shall be reviewed each November and May, and shall be adjusted to the nearest hundredth of a cent per one-tenth degree API gravity per barrel whenever the amount of any change in the quality adjustment derived above is at least five (5) percent greater or five (5) percent less than the adjustment then in effect. The effective dates of any such adjustments shall be the following January 1 and July 1 respectively.

7. The Gravity Differential Value Per Barrel in effect shall be applied to the difference in gravity (in API degrees @ 60° Fahrenheit) between the weighted average gravity of the Petroleum delivered out of the Terminal during a calendar month and the weighted average gravity of Petroleum received out of the Terminal by an individual shipper during such month.

F. Methodology For Pump Station No. 1, GVEA Connection and PSVR Connection

1. Assay Methodology -- Sampling Procedure

Except as specified below, and except for the reference streams, each of the Quality Bank streams listed above (for Pump Station No. 1, GVEA, and PSVR Quality Banks) will be sampled by the Quality Bank Administrator using continuous monthly composite samplers on a flow rate dependent basis, and assays of these continuously collected samples shall be performed monthly by the Quality Bank Administrator.

2. Assay Analysis Procedure

a. Except as specified in paragraph b. below, the assays will include a TBP distillation and, as applicable, gas chromatograph analysis of each Quality Bank stream. Specifically, the TBP procedure will employ ASTM 2892 up to 650°F and ASTM 5236 for the

650 to 1050+°F range for the Petroleum samples. The light ends (175°F minus) from the Petroleum streams will be subject to a gas chromatograph analysis to determine the volumes of the propane (“C3”), Iso-butane (“iC4”), and normal butane (“nC4”), with the LSR (sometimes referred to as natural gasoline) volume determined by difference between the total of the three components and the measured 175°F minus volume.

b. The specific gravities of C3, iC4, nC4 will be derived from GPA Standard 2145.

3. Assay Data

a. The following volume and quality data will be determined for each stream.

Component	TBP Boiling Range °F	% Vol	Specific Gravity
Propane (C3)		X	X
I-Butane (iC4)		X	X
N-Butane (nC4)		X	X
LSR	C5-175	X	X
Naphtha	175-350	X	X
Light Distillate	350-450	X	X
Heavy Distillate	450-650	X	X
Gas Oil	650-1050	X	X
Resid	1050+	X	X
Full Petroleum Stream			X

b. The total volume must add to 100% and the total component weighted mass must be checked against the mass of the full Petroleum stream. These weight balances must be the same within calculation and assay precision. If the assay fails this threshold test of validity, a second assay shall be performed on the sample. An example of assay data required is presented in Attachment 1. These data are the basis for all calculations in this Quality Bank methodology. The Quality Bank operates on a calendar month basis, with the continuous samples retrieved for analysis on the last day of each month.

c. The Quality Bank Administrator shall investigate the validity of a sample if each of the following two tests is met.

(i) If one or more of an individual stream’s reported component percentages for a month varies by more than the ranges indicated in the following table as compared to the prior month’s assay.

**Variation in % of Stream
Relative to Prior Month**

Component

Propane	± 0.1
I-Butane	± 0.1
N-Butane	± 0.25
LSR	± 0.5
Naphtha	± 1.0
Light Distillate	± 1.0
Heavy Distillate	± 1.0
Gas Oil	± 1.5
Resid	± 1.0

As an example, if a Petroleum stream's heavy distillate volume percent is 23% for the prior month, a heavy distillate volume percent less than 22% or greater than 24% (exceeding the ± 1% range) shall cause the Quality Bank Administrator to check the second test.

(ii) The second test is whether the volume change in the specific component has resulted in a significant change in the stream's relative value when compared to the prior month's relative value using the prior month's prices. If the change results in a price movement of more than ±15¢ per barrel, then the sample's validity must be investigated.

(iii) The Quality Bank Administrator shall ascertain from the tendering shipper(s) possible causes for the change in the stream's assay. The Quality Bank Administrator may have a second assay performed for the sample in question. The Quality Bank Administrator may decide that the first assay is valid, that the second assay is valid, or that the sample is invalid.

(iv) Should the Quality Bank Administrator determine that a sample is invalid, the last assay results accepted and used in the Quality Bank for the stream will be used instead of the invalid sample in the Quality Bank calculation.

G. Component Unit Value Procedure

1. Component unit values for the U.S. Gulf Coast and U.S. West Coast will be weighted by the percentage of ANS which was distributed east of the Rockies (including Puerto Rico and the Virgin Islands) and to the West Coast (including Alaska and Hawaii), respectively, as was last determined using placement data reported by the Maritime Administration of the United States Department of Transportation in September 2011.

2. In the event that ANS is transported by pipeline from the West Coast to destinations east of the Rockies, the price weighting shall be adjusted to reflect the percentage of ANS actually distributed to each region both by vessel and pipeline. If such data regarding the destination of ANS transported by pipeline are not publicly available, the Quality Bank

Administrator shall use the percentage of ANS distributed to such regions last used. Percentages provided by the Maritime Administration of the United States Department of Transportation for the period from 1999 to 2011 indicated that 100 percent of ANS was delivered to the West Coast, which is the percentage that will continue in effect until further notice.

3. All the product prices used to calculate the unit values of the components other than the Gulf Coast and West Coast Resid components are taken from Platts and OPIS as set forth in Attachment 2. Prices will be collected for each day markets are open and published prices are available (each "quote day"). The calculated monthly average price will be the average of each quote day mid-point price for the month. These monthly average prices (adjusted as shown in Attachment 2) are used to calculate component unit values each month.

4. The unit value of the West Coast Naphtha component is calculated using the formula given in Attachment 2, page 3.

5. The unit values of the Resid component on the Gulf Coast and the West Coast are calculated using the formulas given in Attachment 2, pages 4 and 5 respectively. The prices for petroleum coke and natural gas are taken from Pace Petroleum Coke Quarterly and Natural Gas Week, respectively. The unit values of all other subcomponents are the same as those specified for that material in Attachment 2. The Quality Bank Administrator shall have the discretion to retest the API gravity, sulfur content and carbon residue of the Resid component of the common stream whenever he believes that there may be a change in the common stream that will significantly affect the Resid component unit values. If the Quality Bank Administrator elects to retest the Resid component of the common stream and is satisfied that the sample is properly taken and tested, the new values for API gravity, sulfur content and carbon residue content shall be used to calculate the multipliers (product yields) in the Resid formulas given in Attachment 2, pages 4 and 5. The calculation of the new multipliers will be done using the spreadsheet depicted in Attachment 2, page 6.

6. In January of each year the adjustments to the prices used to value Light Distillate and Heavy Distillate (shown on Attachment 2 page 2) as well as the Gulf Coast and West Coast coker costs (shown on Attachment 2, pages 4 and 5) shall be revised in accordance with the changes in the Nelson-Farrar Cost Index (Operating Indexes Refinery), by multiplying the adjustments or costs for the previous year by the ratio of (a) the average of the monthly indexes that are then available for the most recent 12 consecutive months to (b) the average of the monthly indexes for the previous (*i.e.*, one year earlier) 12 consecutive months.

7. a. In the event that one of the product prices listed in Attachment 2 is no longer quoted in one of the two markets (West Coast or Gulf Coast), the price quoted for the product in the remaining market shall be used to value the entire component.

b. If both of the product prices listed in Attachment 2 for a component are no longer quoted or if the specifications or other basis for the remaining quotation(s) is radically altered, the Quality Bank Administrator shall notify the FERC, the RCA and all shippers of this fact and propose an appropriate replacement product price, with explanation and justification. Comments may be filed with the FERC and RCA within thirty days of the filing by the Quality Bank Administrator. If the FERC and RCA take no action within sixty days of the filing, the replacement product price proposed by the Quality Bank Administrator will become effective as of the sixtieth day. For the period between the time that

quotation of a product price is discontinued or the specifications or other basis for a quotation is radically altered and the time that the Commissions approve the use of a replacement product price, the Quality Bank Administrator shall use as the unit value of the component in question the unit value for the last month for which a product price was available for such component.

8. For any particular month of Quality Bank calculations, the pricing data for the month of shipment will be used (i.e., the prices are current with the volumes and assay data).

H. Quality Bank Stream Component Calculation Procedure

After all volume, quality, and pricing data are collected, the Quality Bank Administrator will establish quality differentials for each stream identified in Sections III.B., III.C., and III.D.

I. Quality Bank Calculations Procedure

The assay data and calculation procedures required by this Methodology are summarized in the Attachments. The Attachments are for reference purposes only and are not intended to predict the impact of this procedure on any specific Petroleum stream or any specific company. In the event of a conflict between the provisions of this Methodology as set forth above and the Attachments, the provisions of this Methodology shall control.

- ATTACHMENT 1: Yield Data for Example Streams
- ATTACHMENT 2: Component Unit Value Pricing Basis
- ATTACHMENT 3: Example Component Unit Values in \$/Bbl
- ATTACHMENT 4: Example Stream Values in \$/Bbl
- ATTACHMENT 5: Quality Bank Calculation Example

J. Unanticipated Implementation Issues

This Methodology is intended to contain a comprehensive treatment of the subject matter. However, unanticipated issues concerning implementation of this Methodology may arise. If so, the Quality Bank Administrator is authorized to resolve such issues in accordance with the best understanding of the intent of the FERC and RCA that the Quality Bank Administrator can derive from their orders regarding the Quality Bank methodology. The Quality Bank Administrator's resolution of any such issue shall be final unless and until changed prospectively by orders of the FERC and RCA.

Explanation of Symbols:

- [D] Decrease
- [N] New
- [U] Unchanged rate
- [W] Change in wording only.

ATTACHMENT 1
YIELD DATA FOR EXAMPLE STREAMS

COMPONENT	DEFINITION BOILING RANGE (°F)	STREAM A	STREAM B	STREAM C
PROPANE (C ₃)	--	0.15	0.00	0.10
ISOBUTANE (IC ₄)	--	0.10	0.02	0.40
NORMAL BUTANE (nC ₄)	--	0.50	0.10	2.00
LSR	C5-175	4.50	3.50	6.00
NAPHTHA	175-350	13.50	11.00	5.50
LIGHT DISTILLATE	350-450	9.00	9.00	2.00
HEAVY DISTILLATE	450-650	21.00	22.00	16.00
GAS OIL	650-1050	31.25	30.38	41.00
RESID	1050+	20.00	24.00	27.00
TOTAL		100.00	100.00	100.00
EXAMPLE VOLUME, Thousands Barrels per Month		34,000	9,000	2,500

ATTACHMENT 2

**COMPONENT UNIT VALUE PRICING BASIS
EFFECTIVE 2/1/2020**

PROPANE (C₃)

United States Gulf Coast	United States West Coast
Platts' Mt. Belvieu, TX spot quote for Propane.	OPIS's Los Angeles delivered spot quote for Propane.

ISOBUTANE (iC₄)

United States Gulf Coast	United States West Coast
Platts' Mt. Belvieu, TX spot quote for Isobutane.	OPIS's Los Angeles delivered spot quote for Isobutane.

NORMAL BUTANE (nC₄)

United States Gulf Coast	United States West Coast
Platts' Mt. Belvieu, TX spot quote for Normal Butane non-LST.	OPIS's Los Angeles delivered spot quote for Normal Butane.

LIGHT STRAIGHT RUN (C₅ – 175°F)

United States Gulf Coast	United States West Coast
Platts' Mt. Belvieu, TX spot quote for Natural Non-Targa.	OPIS's Bakersfield delivered spot quote for Natural Gasoline.

NAPHTHA (175° – 350°F)

United States Gulf Coast	United States West Coast
Platts' U.S. Gulf Coast spot quote for Waterborne Heavy Naphtha Barge.	See Attachment 2, page 3.

**ATTACHMENT 2
(Continued)**

COMPONENT UNIT VALUE PRICING BASIS

LIGHT DISTILLATE (350° - 450°F)

United States Gulf Coast	United States West Coast
Platts' U.S. Gulf Coast spot quote for Waterborne Jet Kerosene 54 less [D] <u>0.8812</u> cents per gallon.	Platts' U.S. West Coast spot quote for Waterborne Jet Fuel less [D] <u>0.8812</u> cents per gallon.

HEAVY DISTILLATE (450° – 650°F)

United States Gulf Coast	United States West Coast
Platts' U.S. Gulf Coast spot quote for Waterborne No. 2 less [D] <u>3.5241</u> cents per gallon.	Platts' U.S. West Coast spot quote for Los Angeles Pipeline ULS (EPA) Diesel less [D] <u>11.4022</u> cents per gallon.

GAS OIL (650° – 1050°F)

United States Gulf Coast	United States West Coast
OPIS's U.S. Gulf Coast spot quote for barge High Sulfur VGO.	OPIS's U.S. West Coast (Los Angeles basis) spot quote for High Sulfur VGO.

RESID (1050° F and Over)

United States Gulf Coast	United States West Coast
See Attachment 2, page 4.	See Attachment 2, page 5.

ATTACHMENT 2
(Continued)

U.S. West Coast Naphtha
Component Unit Value Pricing Basis

West Coast Naphtha Component Value, \$ per Barrel = [U] 0.460 x Gasoline Price + [U] 0.516 x Jet Fuel Price + [U] -6.387

Where:

Gasoline Price – Platts' West Coast Waterborne Unleaded 87, \$ per Barrel

Jet Fuel Price – Platts' West Coast Waterborne Jet Fuel, \$ per Barrel

The prices used are the monthly average of the daily high and low prices.

The three constants in the equation were derived from a dual variable regression analysis of Platts' Gulf Coast monthly average prices for waterborne Naphtha, unleaded 87 Gasoline, and Jet/Kero 54 over the 10-year period January, 2010 through December, 2019. The Quality Bank Administrator will recompute the constants in the regression equation whenever circumstances require, but not less than once each year.

ATTACHMENT 2
(Continued)

U.S. GULF COAST RESID
COMPONENT UNIT VALUE PRICING BASIS

Resid Component Value, \$ per Barrel =

$$\begin{aligned} & (0.0348) \times \text{QB Propane Value, \$/Bbl.} \\ & + (0.0040) \times \text{QB Isobutane Value, \$/Bbl.} \\ & + (0.0264) \times \text{QB Normal Butane Value, \$/Bbl.} \\ & + (0.0616) \times \text{QB LSR Value, \$/Bbl.} \\ & + (0.1008) \times \text{QB Naphtha Value, \$/Bbl.} \\ & + (0.2046) \times \text{QB Heavy Distillate Value, \$/Bbl.} \\ & + (0.2929) \times \text{QB Gas Oil Value, \$/Bbl.} \\ & + (0.0631) \times \text{Coke Price}^{(1)} - \$5.00 \\ & + (0.2989) \times \text{Natural Gas Price}^{(2)} \\ & - \text{[D] } \underline{13.2273}^{(3)} \end{aligned}$$

- (1) Monthly price quoted in *Pace Petroleum Coke Quarterly* for Gulf Coast high sulfur petroleum coke, >50 HGI, mid point price, \$ per metric ton, converted to \$ per short ton.
- (2) Monthly Henry Hub natural gas spot price quote from *Natural Gas Week*, monthly weighted averages, \$ per MMBtu.
- (3) Gulf Coast coker and coker product treatment costs, including capital recovery, \$ per Barrel.

ATTACHMENT 2
(Continued)

U.S. WEST COAST RESID
COMPONENT UNIT VALUE PRICING BASIS

Resid Component Value, \$ per Barrel =

$$\begin{aligned} & (0.0348) \times \text{QB Propane Value, \$/Bbl.} \\ & + (0.0040) \times \text{QB Isobutane Value, \$/Bbl.} \\ & + (0.0264) \times \text{QB Normal Butane Value, \$/Bbl.} \\ & + (0.0616) \times \text{QB LSR Value, \$/Bbl.} \\ & + (0.1008) \times \text{QB Naphtha Value, \$/Bbl.} \\ & + (0.2046) \times \text{QB Heavy Distillate Value, \$/Bbl.} \\ & + (0.2929) \times \text{QB Gas Oil Value, \$/Bbl.} \\ & + (0.0631) \times \text{Coke Price}^{(1)} - \$8.75 \\ & + (0.2989) \times \text{Natural Gas Price}^{(2)} + \$0.15 \\ & - [\mathbf{D}] \underline{14.8010}^{(3)} \end{aligned}$$

- (1) Monthly price quoted in *Pace Petroleum Coke Quarterly* for West Coast low sulfur petroleum coke, >2% Sulfur, mid point price, \$ per metric ton, converted to \$ per short ton.
- (2) Monthly California natural gas spot price quote from *Natural Gas Week*, gas price trends, (south, delivered to pipeline), \$ per MMBtu.
- (3) West Coast coker and coker product treatment costs, including capital recovery, \$ per Barrel.

**ATTACHMENT 2
(Continued)**

**COKER PRODUCT YIELD MULTIPLIERS
68 DEGREE F C5 CUT POINT (1)**

[U]—Unchanged Rate (Yield). All rates (yields) on this page are unchanged.

Product	<u>Base Yield</u> (per Bbl.)¹	<u>Yield Impact</u> per +1% MCR (per Bbl.)	<u>Yield Impact</u> per +1 °API (per Bbl.)	<u>Yield Impact</u> per +1% Sulfur (per Bbl.)	<u>Revised</u> Product Yield (per Bbl.)
Propane	0.0348	0.0000	0.0000	0.0000	0.0348
Isobutane	0.0040	0.0000	0.0000	0.0000	0.0040
Normal Butane	0.0264	0.0000	0.0000	0.0000	0.0264
LSR	0.0609	0.0014	0.0008	-0.0003	0.0616
Naphtha	0.0996	0.0023	0.0013	-0.0005	0.1008
Heavy Distillate	0.2080	-0.0078	-0.0039	-0.0013	0.2046
Gas Oil	0.2989	-0.0134	-0.0067	-0.0019	0.2929
Coke	0.0618	0.0030	0.0015	-0.0003	0.0631
Fuel Gas	0.2989	0.0000	0.0000	0.0000	0.2989

	Base	Caleb Brett 2001 Assay
MCR, %	23.00	23.1
°API	5.50	6.2
SULFUR, %	2.50	2.47

¹ From EMT-197 revised to use 68°F cut point for C⁵⁺

ATTACHMENT 3
EXAMPLE COMPONENT UNIT VALUES IN \$/Bbl

COMPONENT NAME	WEST COAST (\$/Bbl)	GULF COAST (\$/Bbl)	WEIGHTED AVERAGE (\$/Bbl)
PROPANE (C ₃)	19.7925	15.0442	19.68
ISOBUTANE (iC ₄)	24.1238	18.4333	23.99
NORMAL BUTANE (nC ₄)	18.1125	18.4800	18.12
LSR (C ₅ - 175°F)	18.5850	19.5854	18.61
NAPHTHA (175°F - 350°F)	21.3383	21.3383	21.34
LIGHT DISTILLATE (350°F - 450°F)	25.9817	22.9396	25.91
HEAVY DISTILLATE (450°F - 650°F)	23.0000	22.1112	22.98
GAS OIL (650°F - 1050°F)	20.8133	21.8133	20.84
RESID (1050°F and over)	14.6349	15.0000	14.64
WEIGHTING FACTOR	97.71	2.29	

ATTACHMENT 4
EXAMPLE STREAM VALUES IN \$/Bbl

COMPONENT NAME	STREAM A	STREAM B	STREAM C
PROPANE (C ₃)	0.029520	0.000000	0.019680
ISOBUTANE (iC ₄)	0.023990	0.004798	0.095960
NORMAL BUTANE (nC ₄)	0.090600	0.018120	0.362400
LSR (C ₅ - 175°F)	0.837450	0.651350	1.116600
NAPHTHA (175°F - 350°F)	2.880900	2.347400	1.173700
LIGHT DISTILLATE (350°F - 450°F)	2.331900	2.331900	0.518200
HEAVY DISTILLATE (450°F - 650°F)	4.825800	5.055600	3.676800
GAS OIL (650°F - 1050°F)	6.512500	6.331192	8.544400
RESID (1050°F and over)	2.928000	3.513600	3.952800
TOTAL	20.460660	20.253960	19.460540

**ATTACHMENT 5
QUALITY BANK CALCULATION EXAMPLE**

QUALITY BANK REFERENCE STREAM VALUE CALCULATION

	VOLUME (MBPM)	VALUE (\$/Bbl)	TOTAL VALUE M\$/Month
STREAM A	34,000	20.460660	\$ 695.66
STREAM B	9,000	20.253960	\$182.29
STREAM C	2,500	19.460540	\$48.65
TOTAL	45,500	20.364823 ⁽¹⁾	\$926.60
(Reference Stream)			
(1) Total Value Divided by Total Volume			

QUALITY BANK PAYMENT/RECEIPT CALCULATIONS

	DIFFERENTIAL⁽²⁾	(MBPM)	PAYMENT OR RECEIPT (M\$/Month⁽³⁾)
STREAM A	0.095837	34,000	\$3,258.47
STREAM B	(0.110863)	9,000	\$ (997.76)
STREAM C	(0.904283)	2,500	\$ (2,260.71)
(2) Stream value minus reference value			
(3) Differential times volume			