



# Kingston Midstream

## FACILITY DESIGN AND COST BASIS

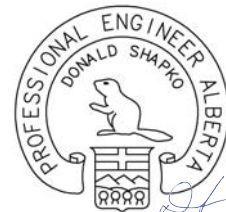
**Kingston Midstream Westspur Limited and Secure Energy Services Inc. Interconnection Facilities on the Westspur Pipeline**

**Canada Energy Regulator  
RH-003-2020**

**EXPERT REPORT**

**Prepared By:  
Don Shapko, P. Eng**

**Revision: 0  
November 22, 2020**



2020/11/22

Rev	Description	Tridyne PM/PE	Date	Checked	Date	Approved	Date	Client	Date
0	Issue for Use	Don Shapko	2020-11-22						

## TABLE OF CONTENTS

1.0	INTRODUCTION .....	3
2.0	AUTHORS QUALIFICATIONS AND EXPERIENCE .....	3
3.0	KINGSTON WESTPUR PIPELINE SYSTEM AND FACILITIES .....	3
4.0	SECURE ENERGY ALIDA FACILITY .....	3
5.0	FACILITY DESIGN .....	4
5.1	DESIGN BASIS .....	4
5.1.1	Design Rates .....	4
5.2	FACILITY MODIFICATIONS .....	5
5.3	TERMINAL TAKE-OFF FOR SECURE .....	6
5.3.1	Off-Take Storage Tank .....	6
5.3.2	Transfer Pump to Secure .....	6
5.4	CUSTODY TRANSFER FACILITIES .....	7
5.5	BATCHING .....	8
5.5.1	Batch Accumulation Tank .....	8
5.5.1	Batching Infrastructure .....	8
5.6	PUMPS .....	9
5.7	PIPELINES .....	9
5.8	MIW .....	9
6.0	COST ANALYSIS .....	10
7.0	CONCLUSIONS .....	10

## 1.0 INTRODUCTION

Kingston Westspur Limited (Kingston Westspur) has engaged Tridyne Projects Corporation regarding an application filed by Secure Energy Service Inc. (Secure) to the Canada Energy Regulator (CER) related to connection access to the Westspur Pipeline system at Secure's Alida Crude Oil Terminal (Secure Alida Terminal). I am submitting this report with respect to the facility and pipeline design and infrastructure required to respond to Secure's requested connection to the Westspur Pipeline system.

Kingston Westspur has provided me with existing facility design and information for the Kingston Alida Oil Terminal (Kingston Alida Terminal) and the Westspur Pipeline system. The opinions and conclusions presented in this report are based on my engineering experience and review of the information and details provided at time of writing.

## 2.0 AUTHORS QUALIFICATIONS AND EXPERIENCE

I am a professional engineer and I hold a B.Sc in Chemical Engineering from the University of Alberta, 1987. I have 25+ years of engineering experience primarily in the oil and gas industry specializing in facility and pipeline design. I also have experience with product blending design including equipment and infrastructure specifications, custody transfer requirements and facility operations.

Please see Appendix A for a copy of my Curriculum Vitae.

## 3.0 KINGSTON WESTSPUR PIPELINE SYSTEM AND FACILITIES

Kingston Westspur owns and operates the CER regulated Westspur Pipeline. The pipeline system transports crude oil from the Saskatchewan Gathering System to the Enbridge mainline terminal located in Cromer, MB.

The Westspur Pipeline system contains two main crude oil lines designated as Line 23A and Line 23B. Line 23A is an NPS 16 pipeline which transports South East Saskatchewan (SES) crude. Line 23B is an NPS 12 pipeline which transports Medium Westspur Midale (MSM) crude.

The Kingston Alida Terminal is a facility located on the mainline which can be used to receive crude oil from Line 23A or Line 23B. It is also a terminalling facility where Saskatchewan producers can send crude through directly connected gathering pipelines or truck-in facilities. Through the facility equipment and infrastructure, the gathered crude volumes can then be shipped from the Kingston Alida Terminal and delivered onto either of the Line 23A or Line 23B of the Westspur Pipeline.

## 4.0 SECURE ENERGY ALIDA FACILITY

Secure owns and operates the Secure Alida Terminal which is adjacent to the Kingston Alida Terminal. Secure has applied to withdraw crude volumes from the Westspur Pipeline at the Kingston Alida Terminal

for delivery to the Secure Alida Terminal. The basis of the design assumes that Secure would like the ability to receive LSB crude from the Line 23A Westspur pipeline for the purpose of blending. Secure seeks to blend the crude with butane, condensate and heavy oil and then send the blended crude back to the Kingston Alida Terminal for reinjection back onto the Westspur Pipeline system for delivery to the Enbridge Cromer terminal.

## 5.0 FACILITY DESIGN

The Kingston Alida Terminal would need to be upgraded to allow Secure to receive crude oil from the Westspur Pipeline and deliver blended crude oil back onto the Westspur Pipeline.

### 5.1 DESIGN BASIS

The design basis for the facility design is the following:

Maximum Westspur Line Rate (Design Rate)	1,100 m <sup>3</sup> /hr (6919 BBL/hr)
Delivery Volume to Secure	17,500 BPD (115 m <sup>3</sup> /hr)
Return Blended Volume from Secure	22,300 BPD (180 m <sup>3</sup> /hr)
Enbridge Minimum Batch Size	8,000 m <sup>3</sup> (50,320 BBL)
Secure volume request (as per CER Dec-30-2019)	83,500 m <sup>3</sup> /month (525,215 BBL/month)
Blended Product Pipeline Specs	Enbridge LSB Pool Quality Specifications

For product quality specifications on crude volumes from Secure, it is assumed they need to adhere to the Enbridge Light Sour Blend (LSB) pool quality specifications. A copy of those specifications is provided in Appendix B.

#### 5.1.1 Design Rates

Equipment and pipeline sizing will use the maximum Westspur line rate of 1,100 m<sup>3</sup>/hr as the design rate for off-take of volumes from the Westspur Pipeline system into the Kingston Alida Terminal and designated off-take storage tank.

The design rate of 180 m<sup>3</sup>/hr will be used for all equipment and pipeline sizing for delivery of common stream crude from the Kingston Alida terminal into the Secure Alida Terminal.

The design rate of 180 m<sup>3</sup>/hr will be used for all equipment and pipeline sizing from the Secure Alida Terminal transferring blended volumes into the Kingston Alida Terminal and designated batch accumulation tank.

The Enbridge minimum batch volume is 8000 m<sup>3</sup> and the design rate of 1100 m<sup>3</sup>/hr will be used for the design and sizing of equipment from the batch accumulation tank onto the Westspur Pipeline system.

## 5.2 FACILITY MODIFICATIONS

The Kingston Alida Terminal is designed to receive and deliver crude volumes from the Westspur Pipeline system. To provide Secure with requested volumes from the LSB (Line 23A) Westspur pipeline, the crude will need be received from the Westspur System pipelines and sent to a dedicated off-take storage tank in Kingston Alida Terminal. The design will extend the existing Kingston Alida Terminal Header valve manifold which distributes incoming Light and Medium crude to different parts of the facility be it terminal tankage for storage or truck out or outgoing pipelines. The Terminal Header is also used to send any received crude to the outgoing booster pumps and onto the Line 23A or Line 23B Westspur Pipeline Mainline shipping pumps.

A new valve manifold header will be required to redirect flow to a new off-take storage tank within the Kingston Alida Terminal. The off-take storage tank is required to ensure Secure will receive their nominated volumes directly from the Westspur Pipeline and segregated from other crude sources within the Kingston Alida Terminal. Crude oil from the off-take storage tank will then be sent through a dedicated transfer pump and pipeline to the Secure Alida Terminal where it will be received.

The associated Facility Modifications required to send and received crude oil to Secure include the following:

- Kingston Alida Terminal header Off-Take storage for Secure.
  - One 80,000 BBL Off-Take storage tank with tank containment.
  - Automated valving and control devices for the Westspur Control Center.
  - Facility pipe/valves/fittings (PVF).
  - Delivery manifold from off-take storage tank to the Secure Alida Terminal.
  - One 50 HP transfer pump complete with VFD.
- One (1) NPS 6 Pipeline to the Secure Alida Terminal (0.5 km).
  - Launching and receiving pigging facilities.
  - Line balancing meters.
- Secure Custody Transfer Facility
  - Lease Automated Custody Transfer (LACT) for receipt from Kingston Alida Terminal into the Secure Alida Terminal.
  - LACT for delivery to the Kingston Alida Terminal including online True Vapor Pressure (TVP) monitoring and composite sampling.
  - Control building with MCC and PLC.
  - Facility pipe/valves/fittings (PVF).
  - LACT shipping pump 125 HP complete with VFD.
- One (1) NPS 6 Pipeline from the Secure Alida Terminal.

- Launching and receiving pigging facilities.
- Line balancing meters.
- Kingston Alida Terminal Batch Accumulation Storage Facility for Secure
  - One 80,000 BBL batch accumulation storage tank with tank containment.
  - Automated valving and control devices for the Westspur Control Center.
  - Facility pipe/valves/fittings (PVF).
  - Delivery manifold from Secure batch accumulation tank storage to the Westspur Pipeline.

### 5.3 TERMINAL TAKE-OFF FOR SECURE

A new valve manifold header will be required within the Kingston Alida Terminal to direct flow to a designated off-take storage tank. This line will be capable of diverting the maximum Westspur Pipeline flow rate of 1,100 m<sup>3</sup>/hr into a new 80,000 BBL off-take storage tank for Secure volumes. The new manifold header will be installed on the 16" incoming header and will be upstream of the Kingston Alida Terminal header to keep the Secure designated crude volume segregated from the other crude within the facility. The new valve manifold header will be equipped with 16" motor operated valves (MOVs) to direct the flow to the new tank.

#### 5.3.1 Off-Take Storage Tank

An 80,000 BBL off-take tank will be installed at the Kingston Alida Terminal for storage. The off-take tank will be sized for three (3) days of storage based on the Secure blended volume design rates (22,300 BPD) listed above. The additional capacity allows for any operational upsets or batch scheduling delays.

The off-take tank will be equipped with a floating steel lined internal roof with a fixed cone exterior. The tank will also have the normal suitable instruments such as level switches, level transmitters, and temperature and pressure indication. It will also be installed with a sampling station for quality control.

The off-take tank will be installed in a tank containment berm. It is assumed there is enough space on the existing Kingston Alida Terminal lease for the installation of the accumulation tank and corresponding containment.

#### 5.3.2 Transfer Pump to Secure

A transfer header and transfer pump will be required to send crude volumes from the 80,000 BBL off-take tank to the Secure Alida Terminal. The transfer pump is sized for the delivery volumes to Secure of 17,500 BPD (115 m<sup>3</sup>/hr). The transfer pump will be a 50 HP centrifugal pump with a VFD. The transfer pump will send the crude through a 6" delivery manifold valve header to the NPS 6 pipeline riser going to the Secure Alida Terminal.

## 5.4 CUSTODY TRANSFER FACILITIES

Custody transfer is required on all crude deliveries between Kingston Westspur and Secure. Deliveries from the Kingston Alida Terminal into the Secure Alida Terminal requires a Lease Automated Custody Transfer (LACT) unit. This LACT unit will measure volumetric flow, density and sediment and water (S&W) and have a sampling point for additional stream analysis. The meters are required to be proved as per Canadian Measurement guidelines.

Coriolis meters will be used for mass flow measurement and corrected to volumetric measurement. The coriolis meter will also be used for density measurement. A water cut analyzer will be used for BS&W measurements.

Deliveries of blended product from Secure will require additional measurement and crude analysis. Secure has indicated they would like to blend received Westspur crude volumes with heavy oil, butane and condensate at the Secure Alida Terminal. When blending with butane and condensate the resulting blended crude's vapour pressure of the resulting mixture increases.

The Crude Petroleum Quality Specifications state that the shipper deliveries criteria and Secure will need to blend to these targets:

- Crude product with a vapour pressure of no more than 95 kPa.
- Sediment and Water (S&W) no more than 0.5 vol%.
- At the receipt point the crude shall have a density from 800 kg/m<sup>3</sup> to 971 kg/m<sup>3</sup> to be classified as light sour crude petroleum.
- A receipt of crude having a density between 871.1 kg/m<sup>3</sup> to 904 kg/m<sup>3</sup> will be classified as Medium crude petroleum.

The outgoing LACT from Secure to the Kingston Alida Terminal will have the same flow, density and S&W measurement and instrument devices as the incoming stream and require additional measurement to ensure the quality specifications for the Westspur Pipeline system are met. An inline True Vapour Pressure (TVP) Analyzer will be needed to measure vapour pressure. In addition, a composite sampling system will also be required to provide a source for additional lab analysis for other product qualities not measured inline. In case of any off-spec crude being received and identified by the outgoing LACT, an automated divert line back to the Secure blending facilities will need to be installed.

Refer to the product specification in Appendix B for more details on product quality targets.

Within the LACT, a 125 HP shipping pump complete with VFD will be required to transfer blended crude volumes from the Secure Alida Terminal to the Kingston Alida Terminal and into the accumulation storage tank.

An Electrical Motor Control Center (MCC) and PLC building will be required for electrical power, motor and VFDs, connections and terminations, and PLC control and I/O for the LACT and Quality building and pipeline riser's infrastructure.

## 5.5 BATCHING

There is a Settlement Agreement between Kingston and the Producer Group for the Westspur Pipeline system with respect to blended volumes and profit-sharing. In order to avoid oil that Secure has already blended from having to be blended again downstream of Alida, from an engineering and operational perspective, the Secure blended volumes from the Secure Alida Terminal will need to be segregated from the rest of the Westspur Pipeline volumes. In order to ship Secure blended volumes onto the Westspur Pipeline system, they will need to be batched into the Westspur Pipeline.

Batching facilities at the Kingston Alida Terminal will require a batch accumulation storage tank and facility infrastructure to allow the batched volumes to be delivered onto the Westspur Pipeline system at full line rates.

### 5.5.1 Batch Accumulation Tank

An 80,000 BBL accumulation tank will be installed at the Kingston Alida Terminal for storage. The batch accumulation tank will be sized for three (3) days of storage based on the Secure blended volume design rates (22,300 BPD) listed above. The additional capacity allows for any operational upsets or batch scheduling delays.

The batch accumulation tank will be equipped with a floating steel lined internal roof with a fixed cone exterior. In addition, it needs to be equipped with a tank mixer to keep the Secure crude blended and minimize any settlement and for BS&W control. The tank will also have the normal suitable instruments such as level switches, level transmitters, and temperature and pressure indication. It will also be installed with a sampling station for quality control.

The accumulation tank will be installed in a tank containment berm. It is assumed there is enough space on the existing Kingston Alida Terminal lease for the installation of the accumulation tank and corresponding containment.

### 5.5.1 Batching Infrastructure

During scheduled batching operations, Secure's blended crude oil will be injected onto the Westspur Pipeline system. A batching valve manifold will be necessary to send crude product from the batch accumulation tank and deliver it into the Westspur Pipeline system. The existing Kingston Alida Terminal crude booster pumps and mainline shipping pumps can be used to inject the batch onto the Westspur Pipeline.



## 5.6 PUMPS

A transfer pump from the off-take storage tank within the Kingston Alida Terminal to Secure Alida Terminal will be required and is described above.

Based on the information that I received, the design and cost estimate included the installation of a booster pump facility. It is my opinion that existing booster and mainline pumps can be used and a new booster pump facility is not required to move volumes from the accumulation tank onto the Westspur Pipeline. This opinion is based on the design rates detailed above and data I have reviewed on the existing booster and Westspur mainline pumps within the Kingston Alida Terminal. If the design rates change, then the existing pump capacity needs to be reviewed and additional costs may be realized.

In addition, if any booster pumps are necessary for Secure to send crude back through the LACT transfer pump, Secure must provide these pumps. I do not have enough information regarding Secure's proposed blending facility design to determine if they require any additional pump equipment.

## 5.7 PIPELINES

Pipelines between the Kingston and Secure Alida Terminals are necessary. Based on the design rates, a NPS 6 delivery pipeline to Secure and a NPS 6 receipt pipeline from Secure will be required. The pipeline length is estimated at 0.5 km between the facilities.

Each pipeline will require pigging facilities installed for maintenance service; a pig launcher/receiver pair on each pipeline segment. In addition, for each pipeline, the risers will require line balance/leak detection meters. Through constant monitoring and flow measurement algorithms, potential leaks can be identified early to minimize the volume of a spill. A corrosion protection system will also need to be installed be it impressed current or cathodic beds.

## 5.8 MIW

Blending operations at the Manitoba Interconnect Westspur (MIW) will need to be shut down when the Secure batch has reached the facility. It is expected that no infrastructure changes are required at this facility.

Since the Secure batch density are very similar with existing crude volumes on the Westspur Pipeline, automated batch interface detection will be difficult. Batch swinging and detection will be controlled by the Westspur Pipeline operational control center. The control center's Human Machine Interface (HMI) will need to be programmed to handle batching operations.

## 6.0 COST ANALYSIS

A cost estimate was completed by Kingston Westspur and filed as an attachment (CER-Kingston Westspur IR 1.1) earlier in this proceeding. I have reviewed the cost estimate and the supporting detail. Based on the design outlined above, I have developed an independent cost estimate. A revised cost estimate based on my assessment and recommendations is presented in Appendix C.

For the cost basis, it was assumed Secure is only proposing to receive LSB crude from the Westspur Line 23A. If Secure is proposing to blend both LSB and Midale crudes, a second off-take and batch accumulation tank would be required to keep the LSB and Midale products separated.

The basis of estimate for the costs are derived from historical costs from recent similar pipeline and facility projects. They include:

- Equipment and instrument costs for similar design rates from recent and historical quotes.
- Pipeline material costs from recent quotes and recently completed projects.
- Construction and Installation costs for Facility and Pipeline from recently completed projects.

## 7.0 CONCLUSIONS

The proposed facility and pipeline designs presented above align with typical industry installations for the purpose of custody transfer for receipt and delivery points between interconnecting facilities of producers and shipper.

In addition, the measurement and quality monitoring and control for blending operations is also a typical industry design where it is the responsibility of the producer to meet the pipeline product specifications upon delivery.

Other than the requirement of off-take and batch accumulation tanks, any pipeline operational impacts and considerations for transferring volumes to and from the Westspur Pipeline System are outside my assessment as my evaluation is with respect to the facility and pipeline equipment design and infrastructure necessary to support crude oil transfer between the Kingston Alida Terminal and the Secure Alida Terminal.

Secure Alida Terminal facilities have not been evaluated to determine if any facility infrastructure changes are required for the design rates and assumed operating philosophy other than pipeline risers and custody transfer equipment described above.

## SUMMARY

Don is a Senior Project Engineer who has been with Tridyne since 2005. Aside from his chemical engineering capabilities, he is also skilled in project management and software engineering. Since being with Tridyne, he has taken on countless projects as the Lead Project Engineer overseeing all aspects of the project through to completion. His twenty-five years of experience and superior organization skills allow him to coordinate and supervise multi-disciplinary teams and successfully manage multiple projects concurrently.

## EDUCATIONAL BACKGROUND

<b>B. Sc. Chemical Engineering</b>	<b>1987</b>
University of Alberta, Edmonton, Alberta	
<b>B. Sc. Computer Science</b>	<b>1995</b>
University of Alberta, Edmonton, Alberta	

## PROFESSIONAL MEMBERSHIPS

**Professional Engineer, Association of Professional Engineers and Geoscientist of Alberta**

## PROJECT EXPERIENCE

### **Tridyne Projects Corporation – Senior Project Manager** **2005 - Present**

- Planned, directed and managed project scopes, deliverables, budget milestones and deadlines for designated engineering projects with \$100,000 to \$17,000,000 budgets.
- Experienced in design and construction of emulsion and water pipelines, oil satellites, oil batteries, gas compressor stations, water injection systems including water flood and polymer water enhanced recovery.
- Managed and coordinated a multi-disciplinary team in the engineering design and development of P&ID's and equipment specifications for engineering projects.
- Provided project leadership for project team including budget control, change order management, project timetable, status reporting, client and project team coordination and procurement services.
- Major Projects:
  - Kingston Midstream
    - West Cromer Butane Terminal
    - North Steelman Butane Terminal
  - Secure Energy
    - Drayton Valley Blending Optimization
    - East Kaybob Gathering System
  - Crescent Point Energy
    - Manson 16-04 Battery
  - Enerplus Corporation
    - Roselea Battery Consolidation Project

### **PDA Verticals Corporation – Systems Analyst** **2000 – 2005**

- Designed, developed and implemented Ecommerce engine for websites. Redesigned and migrated websites to XML utilizing AxKit XML Application Server.
- Implemented custom packaging and shipping system, integrated with UPS.

Project Manager

- Created and implemented a PDA synchronization server for synchronizing documents to multiple PDA's.
- General overall support of websites.

**Enbridge Pipelines – Senior Systems Analyst**

**1995 – 2000**

- Designed and managed the development of a gas pipeline control system as the technical lead on the SCADA replacement project. Developed and integrated Enbridge's pipeline control system and SCADA system for the OCENSA Cusiana/Cupiagua full field development project in Bogota, Columbia.
- Designed, developed and implemented a transient pipeline trainer for the Enbridge and OCENSA pipeline control system.
- Developed and integrated a leak detection system utilizing the Stoner Associates pipeline simulation software with the Enbridge SCADA system.
- Provided general support of the Enbridge SCADA systems.

**Simplot Canada Limited – Process Engineer**

**1988 – 1990**

- Designed and implemented a nitric acid production and efficiency program.
- Designed and engineered process equipment to meet increase capacities and improve nitric acid plant product quality.
- Ordered, inventoried and controlled previous medal transactions.
- Performed process troubleshooting to eliminate problems in the nitric acid, ammonium nitrate and ammonium thiosulfate plants.

**NEB No. 94**  
(Cancels NEB No. 93)

# **TEML Westspur Pipelines Limited**

---

## **TARIFF**

---

### **RULES AND REGULATIONS**

Governing the  
**TRANSPORTATION**  
of  
**Crude Petroleum**

---

The rules and regulations published herein apply only under tariffs making specific reference by number to this tariff; such reference will include supplements hereto and successive issues hereof. Specific rules and regulations published in individual tariffs will take precedence over rules and regulations published herein.

---

EFFECTIVE April 1, 2019  
Issued by  
Peter Forrester  
V.P., Corporate Development and Regulatory  
TEML Westspur Pipelines Limited  
Suite 3100, 715 5th Avenue SW  
Calgary, Alberta T2P 2X6  
Telephone: (587) 747-7869

## RULES AND REGULATIONS

### 1. DEFINITIONS

As used in this tariff, the following terms have the following meanings:

“**A.P.I.**” means American Petroleum Institute.

“**A.S.T.M.**” means American Society for Testing and Materials.

“**Carrier**” means TEML Pipelines (Westspur) Limited

“**Common Testing Procedure**” means the common testing procedure to be used by Carrier to assess quality specification requirements for Shipper tendered Crude Petroleum on the Carrier’s pipeline.

“**Crude Petroleum**” means the direct product of oil wells and indirect liquid products of oil or gas wells, or a mixture of such products.

“**Crude Equalization Methodology**” means the crude oil equalization methodology determined in accordance with the Equalization Procedures Guide and in particular, specifically as set forth in Attachment 7 and Attachment 8a of the Equalization Procedures Guide.

“**Delivery Point**” means a point on Carrier’s pipeline system at which Carrier is capable of delivering Crude Petroleum to Shippers or accepting transfer of ownership between Shipper accounts based on the Shippers’ Notice of Shipment or as otherwise set forth in the toll schedule tariff applicable to Carrier’s pipeline and includes the MIW Delivery Point.

“**Density**” means mass per unit volume at 15 degrees Celsius.

“**Enbridge Mainline**” means the Enbridge System (Canadian Mainline) connected to the Carrier’s pipeline at Cromer, currently owned and operated by Enbridge Inc., or one or more of its affiliates.

“**Equalization**” has the meaning given to it in the Equalization Procedures Guide.

“**Equalization Procedures Guide**” means the “Equalization Procedures Guide, developed by the Quality Equalization Steering Committee on behalf of the Canadian Crude and Condensate Shippers and Applied by the Equalized Terminals and Pipelines”, in effect as of January 1, 2019.

“**Financial Assurances**” means the financial assurances provided by the Shipper and accepted by the Carrier in accordance with Rule 21.

“**Force Majeure**” means an event, which is unforeseen, and beyond the control of the Shipper that either prevents the Shipper from delivering the affected volume to Carrier or prevents the Shipper from accepting delivery of the affected volume from Carrier. The following are the only instances that will be recognized as Force Majeure events: earthquakes; floods; landslides; civil disturbances; sabotage; the acts of public enemies; war; blockades; insurrections; riots; epidemics; the act of any government or other authority or statutory undertaking; the inability to obtain or the curtailment of electric power, water or fuel; strikes, lockouts or other labour disruptions; fire; explosions; breakdowns or failures of pipe, plant, machinery or equipment; and contamination or poisoning of catalyst and/or solvent or biological treatment facilities. For greater certainty, a lack of funds; the availability of a more attractive market; Shipper’s inability to purchase Crude Petroleum; or inefficiencies in operations do not constitute events of Force Majeure.

## RULES AND REGULATIONS

“**Gross Standard Volume**” means volume corrected as to temperature from observed degrees Fahrenheit/Celsius to fifteen degrees (15°) Celsius.

“**M<sup>3</sup>**” means cubic metre at a temperature of fifteen degrees (15°) Celsius.

“**MIW**” means the facilities owned and operated by an affiliate of the Carrier immediately downstream of the MIW Delivery Point and located at 14-17-9-28-W1M.

“**MIW Delivery Point**” means the location immediately upstream of MIW where nominated Crude Petroleum is delivered from Carrier’s pipeline into MIW.

“**MIW Receipt Point**” means the location downstream of MIW where nominated Crude Petroleum is delivered back onto Westspur Pipeline.

“**NEB**” means National Energy Board.

“**Net Volume**” means the Gross Standard Volume minus the known S&W.

“**Notice of Shipment**” means the notice of shipment as described in Rule 12(a).

“**Quality Equalization Steering Committee**” means a committee, which consists of a minimum of six elected Shipper representatives from the oil industry, the mandate of which is to establish and govern an equalization process as established in the Equalization Procedures Guide.

“**Receipt Point**” means a point on Carrier’s pipeline system at which Carrier has facilities to accept receipt of Crude Petroleum.

“**S&W**” means sediment, water or other impurities the percentage of which has been determined by use of A.S.T.M. procedure D96-88 (centrifuge test) for ascertaining the percentage of S&W in Crude Petroleum.

“**Shipper**” means the party, that contracts with Carrier for the transportation of Crude Petroleum under the terms of this tariff, provided that for the purpose of Rule 14(a)(i), “**Shipper**” means a party that has contracted with the Carrier for the transportation of Crude Petroleum within the last twelve (12) months on the Carrier’s pipeline.

“**Transportation Charges**” means, without limiting the generality of the charges and costs lawfully due to the Carrier relating to the transportation of the Shipper’s Crude Petroleum, whether in transit or delivered, and the Transportation Charges shall include tariff charges, equalization obligations, negative Shipper’s balance positions and Loss Allowance, together with any goods and services tax payable pursuant to the *Excise Tax Act* (Canada), provincial sales tax, or other applicable tax payable pursuant to similar federal or provincial legislation.

## 2. COMMODITY

These Rules and Regulations apply only to the transportation of Crude Petroleum by the Carrier and no commodity other than Crude Petroleum will be transported under these Rules and Regulations.

Receipt Points that are pipeline connected to Carrier’s pipeline where only a single commodity is transported shall be classified as that commodity. The Carrier shall classify all other Receipt Points on the basis of the last recorded monthly density (at fifteen degrees (15°) Celsius) and sulphur content present at

## RULES AND REGULATIONS

the Receipt Point. A Receipt Point receiving Crude Petroleum having a density from 800.0 kilograms per cubic metre (KG/M<sup>3</sup>) to 871.0 KG/M<sup>3</sup> inclusive will be classified as Light Sour Crude Petroleum. A Receipt Point receiving Crude Petroleum having a density 871.1 KG/M<sup>3</sup> to 904 KG/M<sup>3</sup> will be classified as Medium Crude Petroleum.

### 3. CRUDE PETROLEUM QUALITY SPECIFICATIONS

- (a) A Shipper shall not deliver to the Carrier and the Carrier shall not knowingly accept Crude Petroleum that, as determined by the Carrier, has on receipt:
  - (i) a vapour pressure in excess of 95 Kilopascals for Crude Petroleum.
  - (ii) S&W in excess of one-half of one percent;
  - (iii) a Density of less than 800.0 kilograms per cubic metre or greater than 904 kilograms per cubic metre;
  - (iv) a temperature greater than forty degrees (40°) Celsius or lower than zero degrees (0°) Celsius;
  - (v) been received from manually gauged locations, except where the Crude Petroleum is in parcels of more than sixty cubic metres each;
  - (vi) a kinematic viscosity in excess of 210 square millimetres per second (mm<sup>2</sup>/s) at zero degrees (0°) Celsius. Kinematic viscosity will be determined in accordance with the most current A.S.T.M. procedure D445 or in accordance with any other test deemed appropriate by the Carrier;
  - (vii) a pour point of minus six degrees (-6°) Celsius or greater (Pour point will be determined in accordance with the most current A.S.T.M. procedure D97 or in accordance with any other test deemed appropriate by the Carrier);
  - (viii) any organic chlorides; or
  - (ix) physical or chemical characteristics that may render such Crude Petroleum not readily transportable by the Carrier or that may materially affect the quality of other commodities transported by the Carrier or that may otherwise cause disadvantage to the Carrier.
- (b) Notwithstanding anything herein to the contrary, Carrier may make changes to Rule 3(a) above so that such quality specifications are consistent with those quality specifications governing transportation service on the Enbridge Mainline Rules and Regulations.
- (c) Where Shipper has failed to meet the quality specifications set forth in Rule 3a, and Carrier is nonetheless transporting such Crude Petroleum, Shipper shall be responsible for removal of this Crude Petroleum and be liable to Carrier for all costs and expenses in connection with the removal of such Crude Petroleum from the Carrier's pipeline. For certainty, Carrier shall not have any liability to Shippers for failing to prevent Crude



## RULES AND REGULATIONS

Petroleum onto Carrier's pipeline that does not meet the quality specifications set forth in Rule 3a unless caused by Carrier's gross negligence or willful misconduct..

- (d) A Shipper shall, as required by Carrier, provide to Carrier, a certificate with respect to the specifications of Crude Petroleum to be received by Carrier from such Shipper. If Shipper fails to provide Carrier with such certificate, then Carrier shall not be obligated to accept Shipper's Crude Petroleum. Shipper shall immediately notify Carrier if it becomes aware of Crude Petroleum tendered or to be tendered that does not comply with this Rule 3. The Shipper shall be liable to and indemnify the Carrier against any and all claims, demands, suits, actions, damages, costs, losses, expenses and other consequential damages or claims of whatsoever nature or kind, resulting directly or indirectly from the failure of such Shipper to comply with this Rule 3 and may result in Carrier suspending Shipper's ability to nominate and deliver Crude Petroleum to Carrier's pipeline.
- (e) Carrier reserves the right to take, or cause to have taken, at any time, a sample of any Crude Petroleum tendered by the Shipper to Carrier's pipeline and perform a quality analysis. In performing such quality analysis, Carrier shall use the Common Testing Procedure. The results of the quality analysis based on the application of the Common Testing Procedure shall be considered final and binding. If Crude Petroleum at a Receipt Point does not meet the quality specifications as described herein is tendered to Carrier's pipeline, Shipper shall pay to Carrier an amount equal to all of the costs and expenses incurred by Carrier in connection with the performance of the quality and component analysis on the Crude Petroleum relevant to the period of such analysis. Any payment pursuant to this Rule 3 shall be in addition to, and not in substitution of, any other rights or remedies of the Carrier set forth herein or in any contract or otherwise at law or equity.

### 4. REMOVAL, DELIVERY AND ACCEPTANCE

- (a) A Shipper or the designate of the Shipper shall accept such Shipper's Crude Petroleum upon arrival at the Shipper designated Delivery Point for such Crude Petroleum. If Carrier determines that a Shipper does not comply with the provisions of paragraph (a) of Rule 3, paragraph (c) of Rule 9, or paragraphs (a) or (b) of Rule 14 of these Rules and Regulations, then such Shipper shall remove its Crude Petroleum from the facilities of the Carrier as directed by the Carrier.
- (b) If a Shipper fails to remove its Crude Petroleum or associated substances from the facilities of the Carrier in accordance with the provisions of paragraph (a) of Rule 4 of this tariff, and a disruption of Carrier's operations results, Shipper shall be solely responsible for all reasonably incurred costs, and for losses and liabilities of Carrier associated with such disruption, including loss of revenue resulting therefrom, unless the non-removal of such Crude Petroleum is due to the direct negligence of Carrier.
- (c) If Shipper fails to remove its Crude Petroleum from the facilities of Carrier as directed by Carrier, then Carrier shall have the right to remove and sell such Crude Petroleum in such lawful manner as deemed appropriate by Carrier.
- (d) The Carrier shall pay from the proceeds of such sale all charges and costs accruing or due relating to the disruption of the Carrier's operations, all costs incurred by the Carrier with respect to the storage, removal and sale of such Shipper's Crude Petroleum and any

## RULES AND REGULATIONS

outstanding Transportation Charges. The remainder of such proceeds, if any, shall be held by the Carrier for the Shipper and any other party lawfully entitled to such proceeds.

### 5. QUALITY EQUALIZATION

Equalization of Crude Petroleum tendered to and delivered from Carrier's pipeline shall be determined in accordance with the Crude Equalization Methodology.

### 6. CHANGES IN QUALITY AND SEGREGATION

- (a) Carrier shall use reasonable efforts to deliver substantially the same type of Crude Petroleum as that received from the Shipper subject to commingling as provided within these Rules and Regulations. Carrier shall not be obligated to make delivery of the identical Crude Petroleum received by Carrier and in the case of any stream shall make delivery out of its common stock.
- (b) If Crude Petroleum tendered to Carrier is of a kind or quality that is not currently being transported by Carrier, then Carrier shall, at the request of Shipper of such Crude Petroleum and subject to the operating conditions of the facilities of Carrier, make reasonable efforts to segregate such Crude Petroleum during transportation by Carrier. In such circumstances, Shipper shall, at the request of Carrier, make such Crude Petroleum available in such quantities and at such times as may be necessary to permit such segregated movements.
- (c) Carrier may, in its discretion, require payment of transportation charges in addition to regular rates for transportation of Crude Petroleum which is of a kind not currently transported through Carrier's facilities.
- (d) Subject to paragraph (a) of Rule 19 of these Rules and Regulations, Crude Petroleum tendered to the Carrier for transportation will be received by the Carrier on the condition that it shall be subject to such changes, which include but are not limited to, density, quantity, value and quality, while in transit as may result from the transportation (and all services and procedures related thereto), commingling or intermixing thereof, including, without limiting the generality of the foregoing, the mixing of a Shipper's Crude Petroleum with other Crude Petroleum in the facilities of the Carrier.

### 7. TANKAGE AND FACILITIES

- (a) Shipper shall provide, or cause to be provided, adequate tankage and facilities commensurate with the quantities of Crude Petroleum tendered. Whether Shipper's tankage and other facilities are adequate will be determined by Carrier having regard to those factors it deems appropriate, which factors may include:
  - (i) Storage – Carrier recommends facilities have a minimum storage capability of three days.
  - (ii) Tankage – Tankage must meet minimum A.P.I. specifications and be capable of shipping a minimum of 60M3 per tank. A minimum stairway width of 66 centimeters for access to all clean oil shipping tanks shall be maintained. No internal elbows

## RULES AND REGULATIONS

shall be used on tank shipping nozzles. Locations that require, or may require, to be manually gauged and have tanks that maintain a positive pressure must be equipped with a mechanism that enables the Carrier to bleed off the tank pressure before gauging.

- (iii) Receipt Point Facilities – Windssocks shall be located at each Receipt Point.
  - (iv) Overflow Lines – Overflow lines shall not be attached from water tanks to clean oil shipping tanks.
  - (v) Shipping Lines – The minimum distance between the centerline and the bottom of the tank shall be 40 centimeters. All shipping lines shall have full opening four-inch valves.
  - (vi) Valves – All shipping valves and valve handles shall be properly maintained.
- (b) The Carrier or its representative shall have the right to enter upon the premises where Crude Petroleum of a Shipper that is to be tendered to a Receipt Point is stored and be given access to all sales receipt tanks and/or meters for the purpose of making any examination, inspection, measurement or test necessary, in the discretion of Carrier, acting reasonably to determine the adequacy of the tankage and/or metering.

### 8. GAUGING, TESTING AND SEALS

- (a) Carrier shall gauge or meter, or cause to be gauged or metered a Shipper's Crude Petroleum upon receipt and delivery by the Carrier. Shipper or its representative may be present at such gauging or metering. If tank gauges are used, the volume of Crude Petroleum shall be computed from correctly compiled tank tables on a 100 percent volume basis. Carrier shall not be obligated to service tankage that does not comply with existing tank capacity tables on its pipeline system. If meters are used, they shall be calibrated at such intervals and to such accuracy as determined by Carrier, acting reasonably.
- (b) Carrier, acting reasonably, reserves the right to periodically test randomly selected samples of a Shipper's Crude Petroleum, upon its receipt and in accordance with the Common Testing Procedures. Such testing shall be for the purpose of determining the crude quality levels identified in Rule 3 of these Rules and Regulations and for the purpose of determining density and sulphur content of the sampled Crude Petroleum. The frequency of such testing of Shipper tendered volume shall be at the discretion of Carrier.
- (c) Carrier may, in its discretion, place seals on all quality and/or quantity control points related to the receipt, delivery or shipment of Crude Petroleum. Shipper shall not remove seals without prior approval of the Carrier.
- (d) The application by Carrier of the Common Testing Procedures for gauging, metering and testing samples of a Shipper's Crude Petroleum shall be final and binding.

### 9. TANK TRUCK DELIVERIES AND FACILITIES

## RULES AND REGULATIONS

- (a) Crude Petroleum trucked to Carrier shall be unloaded at the Receipt Point of Carrier classified for the particular commodity trucked. Tank Trucks delivering Crude Petroleum to the facilities of Carrier shall be properly equipped to permit transfer of Crude Petroleum with a minimum of delay within the guidelines established by Carrier.
- (b) Carrier may, acting reasonably, require Shipper to provide the capacity calibration for each tank truck Shipper unloads into Carrier's storage tank or related facilities.
- (c) Carrier, in its discretion, may refuse to accept delivery of Crude Petroleum by tank truck in excess of its Notice of Shipment or in excess of facility volume forecasts determined pursuant to Rule 12, or for reasons of safety, mechanical limitations, operating condition in accordance with the Common Testing Procedure.
- (d) Carrier shall not be obligated to, but may in its discretion, accept for transportation Crude Petroleum trucked to Carrier in excess of its Notice of Shipment or in excess of facility volume forecasts determined pursuant to Rule 12.

### 10. EVIDENCE OF RECEIPTS AND DELIVERIES

The Carrier shall evidence the receipt and delivery of Crude Petroleum by ticket signed by the Carrier showing the date, place of receipt or delivery and data essential for the determination of the quality and quantity of Crude Petroleum within 3 business days and will promptly notify Shipper of any measurements that indicate Crude Petroleum does not meet specifications.

### 11. LOSS ALLOWANCE

A deduction of **ONE-QUARTER OF ONE PERCENT** will be made by the Carrier to cover losses inherent in the transportation of Crude Petroleum by pipeline.

### 12. NOTIFICATION OF SHIPMENT

- (a) Shipper shall notify Carrier in writing of the volume of Crude Petroleum to be shipped and the final destination of the Crude Petroleum on downstream connected Carriers to which the Shipper intends to make delivery for that month (the "Notice of Shipment"). Notices of Shipment are due on the dates and times specified in the annual Crude Oil Logistics Committee Forecast Reporting Calendar.
- (b) Carrier has the right to verify volumes submitted by Shipper in the Notice of Shipment. Where necessary Shipper shall submit a revised Notice of Shipment based on Carrier verification.
- (c) If space is available, and operating conditions permit, the Carrier may, in its discretion, accept Notices of Shipment, and may, in its discretion accept revised Notices of Shipment after the time specified in paragraph (a) of Rule 12 of these Rules and Regulations.

### 13. CRUDE PETROLEUM TRANSFERS

- (a) Subject to the approval of the Carrier, not to be unreasonably withheld, a Shipper may transfer and assign, in such manner as may be specified by Carrier, such Shipper's Crude

## RULES AND REGULATIONS

Petroleum and its rights and obligations under these Rules and Regulations respecting its Crude Petroleum, to another Shipper.

- (b) A transfer of a Shipper's rights and obligations under Rule 13(a) of this tariff respecting its Crude Petroleum will not be binding or effective on the Carrier if the Carrier has provided a notice of non-acceptance to the transferor and transferee within three (3) days of receiving notice of the transfer. The Carrier will be deemed to have disapproved a transfer until such time as the transferee has satisfied the Carrier of its capacity to undertake the transferor's obligations and has provided any Financial Assurances requested by the Carrier in accordance with Rule 21 of this tariff.

### 14. APPORTIONMENT

- (a) If more Crude Petroleum is nominated than can be transported by the Carrier or delivered at a Delivery Point, then the Carrier shall allocate the available capacity amongst the Shippers as follows:
  - (i) Capacity will be allocated to Shippers by allocating to each Shipper a pro rata share of the capacity of the pipeline based on the Notice of Shipment or current facility volume forecasts determined pursuant to Rule 12.
  - (ii) Carrier may also suspend or apportion Crude Petroleum, without claim for damages, if requested or required to suspend delivery, or if Carrier suffers restricted delivery quotas, to any connecting carriers.
- (b) Carrier shall have the right, acting reasonably, to manage the tenders of Crude Petroleum from Shippers to Carrier at Receipt Points and Delivery Points, in order to manage the capacity across the pipeline system, at Receipt Points or at Delivery Points and Carrier may demand that a Shipper revise its Notice of Shipment.

### 15. ADVERSE CLAIMS AGAINST CRUDE PETROLEUM

- (a) A Shipper shall not tender or deliver to the Carrier Crude Petroleum which is involved in litigation, the ownership of which may be in dispute or which is encumbered by a lien or charge of any kind unless the Shipper provides written notification to the Carrier of such litigation, dispute, lien or charge not less than 20 days before such tender is made to the Carrier.
- (b) The Carrier shall not be obligated to accept Crude Petroleum that is involved in litigation, the ownership of which may be in dispute or which is encumbered by a lien or charge of any kind.
- (c) A Shipper shall advise the Carrier in writing if, at any time while the Shipper's Crude Petroleum is in the possession of the Carrier, such Crude Petroleum becomes involved in litigation, the ownership of such Crude Petroleum becomes in dispute or such Crude Petroleum becomes encumbered by a lien or charge of any kind.
- (d) A Shipper shall, upon demand from the Carrier, provide a bond or other form of indemnity satisfactory to the Carrier protecting the Carrier against any liability or loss that may arise

## RULES AND REGULATIONS

as a result of such Shipper's Crude Petroleum being involved in litigation, the ownership of which may be in dispute or which is encumbered by a lien or charge of any kind.

### 16. PAYMENT OF TARIFF CHARGES AND LIEN FOR UNPAID CHARGES

- (a) Shipper shall pay all Transportation Charges as provided for in the most current posted tariff or otherwise lawfully due to the Carrier relating to the transportation or other handling of the Shipper's Crude Petroleum by the Carrier. The Shipper shall pay such Transportation Charges upon receipt of the Carrier's invoice respecting such charges and costs. If required by the Carrier, the Shipper shall pay or settle such Transportation Charges before delivery, or before acceptance of a transfer, of the Shipper's Crude Petroleum by the Carrier. If Shipper fails to pay such rates and charges within 10 days of the date of Carrier's invoice, such rates and charges shall thereafter be subject to interest, accruing day to day, at the rate of 12% per annum until such invoice is paid.
- (b) Carrier shall have a general lien on all of a Shipper's Crude Petroleum that is in the possession of the Carrier to secure the payment of all Transportation Charges accruing or due relating to the transportation or other handling of the Shipper's Petroleum by the Carrier. The general lien provided herein shall be in addition to any lien or security interest otherwise provided by law or contract. The Carrier may withhold the Shipper's Crude Petroleum from delivery and may exercise any other rights and remedies provided at law or by contract, until all Transportation Charges have been paid.
- (c) If rates and charges for the transportation of Shipper's Crude Petroleum remain unpaid for ten days after notice of demand for payment of such charges is made to such Shipper by the Carrier, then the Carrier shall have the right to remove and sell any or all of such Shipper's Crude Petroleum that is in the possession of the Carrier in such lawful manner as deemed appropriate by the Carrier.
- (d) Carrier shall pay from the proceeds of such sale of Crude Petroleum, all Transportation Charges accruing or due relating to the transportation of such Shipper's Crude Petroleum by the Carrier and all costs incurred by the Carrier with respect to the storage, removal and sale of such Shipper's Crude Petroleum. The remainder of such proceeds, if any, shall be held by the Carrier for the Shipper and any other party lawfully entitled to such proceeds.
- (e) When required, the Carrier shall, with or without notice to the Shipper, appoint agent(s) to retain possession of the Shipper's Crude Petroleum on behalf of the Carrier for the purpose of enforcing these Rules and Regulations. The Carrier hereby advises that it has appointed Enbridge Pipelines Inc. as one agent appointed to hold possession of the Shipper's Crude Petroleum for the purpose of enforcing these Rules and Regulations.

### 17. REGULATION ON A COMPLAINT BASIS

The tolls of Carrier are regulated by the NEB on a complaint basis. Carrier shall make copies of tariffs and supporting financial information readily available to interested persons. Shippers who cannot resolve toll and tariff issues with Carrier may file a complaint with the NEB. In the absence of a complaint, the NEB does not normally undertake a detailed examination of Carrier's tolls.

### 18. CLAIMS, SUITS AND TIME FOR FILING

## RULES AND REGULATIONS

- (a) Shipper shall advise Carrier, in writing, of any claim for delay, damage or loss resulting from the transportation of such Shipper's Crude Petroleum by Carrier within 30 days of delivery of such Crude Petroleum by Carrier or, in the case of a failure to make delivery, then within 30 days after a reasonable time for delivery has elapsed.
- (b) A Shipper shall initiate any action arising out of any claim against Carrier within 180 days from the date that Carrier gives written notice to such Shipper that Carrier has disallowed such claim or any part of such claim.
- (c) If Shipper fails to comply with the provisions of paragraph (a) or paragraph (b) of this Rule 18, then such Shipper waives all rights it has to bring an action against Carrier with respect to such claim.

### 19. LIABILITY OF CARRIER

- (a) Except where caused by the direct negligence of the Carrier, the Carrier shall not be liable to a Shipper for any delays, damages, or losses experienced as a result of the Carrier's transportation (and all services and procedures related thereto), commingling, or intermixing of such Crude Petroleum in the facilities of the Carrier. Notwithstanding anything to the contrary contained in this tariff, unless caused by the gross negligence or willful misconduct of the Carrier, the Carrier's liability, if any, shall not extend to any indirect, consequential, incidental, or punitive damages, or to any loss of profits or revenues incurred by such Shipper that may result from the transportation (and all services and procedures related thereto), commingling or intermixing of Crude Petroleum with other Crude Petroleum under this tariff, regardless of whether such claim arises under or results from contract, tort, or strict liability. In no event shall this tariff create any liability for damages on behalf of any third party (whether or not affiliated with the Shipper).
- (b) If damage or loss to Crude Petroleum results from any cause other than from the direct negligence of the Carrier while the Carrier is in possession or control of such Crude Petroleum, then the Carrier may apportion the cost of such damage or loss on a pro rata basis among all Shippers. Each Shipper's share of such cost shall be determined by the Carrier based on the proportion of the volume of the Shipper's Crude Petroleum in the possession of the Carrier on the date of such loss to the total volume of Crude Petroleum in the possession of the Carrier on the date of such loss and each Shipper shall be entitled to have delivered only such portion of its shipment as may remain after the deduction of its proportion of such loss.

### 20. INDEMNIFICATION BY THE SHIPPER

Shipper shall indemnify the Carrier for any damage, loss, costs or consequential loss incurred by the Carrier or any other party as a result of such Shipper's failure to comply with any provision of this tariff.

### 21. FINANCIAL ASSURANCES

- (a) At any time, upon the request of the Carrier, any prospective or existing Shipper shall provide information to the Carrier that will allow the Carrier to, acting reasonably, determine the prospective or existing Shipper's capacity to perform any financial obligations that could arise from the transportation or other handling of that Shipper's Crude Petroleum under the



## RULES AND REGULATIONS

terms of this tariff, including the payment of transportation or other handling charges, equalization obligations and the value of the allowance oil and negative Shipper's balance positions. The Carrier shall not be obligated to accept Crude Petroleum for transportation from an existing or prospective Shipper if the Shipper or prospective Shipper fails to provide the requested information to the Carrier within ten (10) days of the Carrier's written request, or if the Carrier's review of the requested information reveals that the existing or prospective Shipper does not have the capacity to perform any financial obligations that could arise from the transportation of that Shipper's Crude Petroleum under the terms of this tariff, including the payment of transportation charges, equalization obligations and the reasonably determined value of the allowance oil and negative Shipper's balance positions.

- (b) Subject to the provisions of Rule 21(c), the Carrier, upon notice to the Shipper, may require one or more of the following Financial Assurances for the payment of all charges and costs as provided for in this tariff, or otherwise lawfully due to the Carrier, to be provided at the expense of the Shipper:
- (i) a letter of credit in favour of Carrier in an amount sufficient to ensure payment of all costs and charges that could reasonably accrue due to the Carrier, in a form and from an institution acceptable to Carrier;
  - (ii) a guarantee in an amount sufficient to ensure payment of all such costs and charges that could reasonably accrue due to the Carrier, in a form and from a third party acceptable to Carrier; or
  - (iii) such other enforceable collateral security, including but not limited to security agreements over assets of the Shipper, in a form acceptable to the Carrier (the "Financial Assurances").
- (c) In the event that the Carrier reasonably determines that:
- (i) the existing or prospective Shipper's financial condition is or has become impaired or unsatisfactory;
  - (ii) any Financial Assurances previously provided by a Shipper no longer provide adequate security for the performance of the Shipper's obligations that could arise from the transportation of its Crude Petroleum under the terms of this tariff; or
  - (iii) the Carrier otherwise determines that it is necessary to obtain Financial Assurances from the Shipper, then the Shipper shall provide Financial Assurances for the payment of the charges and costs as provided for in this tariff or otherwise lawfully due to the Carrier relating to the transportation of the Shipper's Crude Petroleum by the Carrier. The Carrier shall not be obligated to accept Crude Petroleum for transportation from an existing or prospective Shipper if the Shipper or prospective Shipper fails to deliver the Financial Assurances to Carrier within ten (10) days of Shipper's receipt of Carrier's written request for such Financial Assurances.

## 22. INTRA-SYSTEM TRANSFERS



## RULES AND REGULATIONS

- (a) Other than with respect to batches of Crude Petroleum, Carrier shall, upon written request of a Shipper (the “**Transferor**”) following the Transferor’s tender and prior to delivery in respect of such tender, permit the Transferor to transfer all or any portion of its rights and obligations under the Tariff in respect of such tender to another Shipper (the “**Transferee**”); provided that (i) the transferee satisfies the Financial Assurance requirements set forth in Rule 21, (ii) the Transferee assumes in writing all obligations and liabilities whatsoever in respect of the tender or portion thereof, as applicable, under the Tariff from and after the time Carrier approves such transfer, and (iii) the Transferor has tendered a volume of Crude Petroleum equal to or greater than the volume of Crude Petroleum to be transferred to the Transferee. The Transferee and the Transferor shall confirm in writing to Carrier the transfer volume, transfer timing, Delivery Point, swing instructions (which swing instructions are intended to facilitate the balancing of intra-system transfers) and provide to Carrier any other information or documentation required by Carrier, in its sole discretion. In the event that the Transferor and Transferee do not provide swing instructions, Carrier shall use commercially reasonable efforts to balance the intra-system transfer request with the Transferor’s tendered volumes, and any determinations made by Carrier in this regard shall be final and binding on the Transferor and the Transferee. Carrier shall have no liability whatsoever to the Transferee and the Transferor in respect of an intra-system transfer.
- (b) Each of the Transferor and Transferee shall pay to Carrier an intra-system transfer fee set out in the most current posted tariff of the Carrier.

### 23. NON-PERFORMANCE

During periods of apportionment, if the volume of Crude Petroleum tendered by Shipper on any Day is less than Shipper’s apportioned volume by more than 5% of the apportioned volume, Shipper shall pay to Carrier a per Cubic Meter charge (the “**Non-Performance Charge**”) for each Cubic Meter of the difference between that Shipper’s apportioned volume for such Day and the volume tendered by Shipper on that Day. For greater certainty, the Non-Performance Charge shall not apply to that portion of shortfalls caused by an event of Force Majeure. The Non-Performance Charge in effect from time to time shall be set forth in the most current posted tariff of the Carrier.



AFE #	TBD	
Project Name:	Alida Terminal Interconnections	
Location:		
Expenditure Period:		
WBS	Description	Estimate
100	Project Management	\$ 298,264
101	Cost Control	\$ 197,311
102	Schedule Control	\$ -
103	Internal Labour	\$ -
Project Management		\$ 495,575
200	Engineering Management	\$ 149,132
201	Civil, Enviro, Geo Engineering	\$ 357,917
202	Mechanical Engineering	\$ 521,962
203	Electrical Engineering	\$ 328,090
204	I & C Engineering	\$ 209,653
205	Pipeline Engineering	\$ 50,313
Engineering		\$ 1,617,067
300	Environmental Management	\$ -
301	Environmental Assessments	\$ 50,000
302	Environmental Monitor and Remediation	\$ -
303	Regulatory Management	\$ -
304	Regulatory Legal Assistance	\$ -
Environment and Regulatory		\$ 50,000
350	Public Communications	\$ 10,000
351	Public Consultation	\$ -
352	Land Management	\$ -
353	Land Purchases	\$ -
354	Land Easements & Agreements	\$ -
355	Survey	\$ 43,500
Land and Consultation		\$ 53,500
400	Purchaser	\$ 74,566
401	Contract Administration	\$ -
Purchasing		\$ 74,566
410	Line Pipe	\$ 53,450
411	Assembly & Station Pipe	\$ 217,294
412	Valves	\$ 695,000
413	Fittings	\$ 316,000
414	Electrical Hardware	\$ 235,000
415	Cables	\$ 60,000
416	Instrumentation & Control Devices	\$ 799,300
417	Communications Gear	\$ -
418	Buildings	\$ 465,000
419	Pumps	\$ 170,000
420	Vessels	\$ 5,440,000
421	Structural	\$ 120,000
422	Freight & Hauling	\$ 125,400
423	Civil & Environmental Mat'ls	\$ 110,000
424	Ops Consumables & Spares	\$ -
Material		\$ 8,806,444
500	Operations & Maintenance	\$ -
501	HydroVac	\$ 101,500
502	Civil, Enviro, Geotechnical	\$ 1,040,000
503	Mechanical	\$ 3,941,750
504	Electrical	\$ 513,000
505	Instrumentation & Controls	\$ 202,000
506	Pipeline	\$ 265,000
507	Construction Management	\$ -
508	Construction Inspection	\$ 396,000
509	Pipeline Integrity	\$ -
510	Environmental Inspection	\$ -
511	Quality Assurance	\$ 214,621
Construction		\$ 6,673,871
600	Project Support	\$ -
601	Maintenance	\$ -
602	Operations	\$ -
603	Emergency Response	\$ -
Operations		\$ -
953	Interest - Capital	\$ -
700	Insurance	\$ -
701	Contingency	10% \$ 1,757,371
702	Line Fill & Lost Product	\$ -
703	AFUDC	\$ -
Unallocated		\$ 1,757,371
<b>Total</b>		<b>\$ 19,528,400</b>

