

- Exhibit B -

30-01-2015

MEASUREMENTS, TESTS AND SAMPLING

1. DEFINITIONS, SYSTEM OF MEASUREMENT AND PUBLICATIONS

1.1 Definitions

Capitalized terms used in this Exhibit B, but not defined herein, shall have the meaning set forth in the Agreement.

For the purpose only of this Exhibit B, the following terms shall have the meanings as follows:

ANSI: The American National Standards Institute.

API: The American Petroleum Institute.

API MPMS: The American Petroleum Institute Manual of Petroleum Measurement Standards.

ASME: The American Society of Mechanical Engineers.

ASTM: The American Society for Testing and Materials.

Duty Meter: The physical device for measurement of quantities during normal operation.

FOR 2001-11-01 nr 1234: Forskrift om måling av petroleum for fiskale formål og for beregning av CO₂-avgift (Norwegian Regulation for Fiscal Measurement of Petroleum and calculation of CO₂-tax).

ISO Standards: The standards issued by the International Organization For Standardization.

Master Meter: The physical device that is proved using a certified prover and is then used to calibrate Duty Meters.

Measurement Conditions: The observed temperature and pressure at which the Crude Petroleum is gauged.

Measurement Report: Report of monthly accumulated operational data.

Meter Calibration Report or Certificate: The documented deviation from a known traceable reference.

Metering: The procedure for dynamic measurement of Crude Petroleum with meters operated in accordance with appropriate portions of API MPMS, chapter 5, Metering, and chapter 6, Metering Assemblies.

Meter Proving: The procedure for determining a meter factor or K-factor of a Duty Meter by using a Master Meter.

NORSOK: The off-shore petroleum standards issued by Standards Norway.

Sampling: All the steps required to obtain a sample that is representative of the contents of any pipe, tank, or other vessel and to place that sample in a container from which a representative test specimen can be taken for analysis in accordance with NPD Regulations Section 17, NORSOK I-105, ISO 3170, ISO 3171, API MPMS 8.1, 8.2 and 8.3.

Standard Conditions: The conditions of temperature (15⁰ C) and pressure (101.325 kPa) to which measured volumes are to be corrected for custody transfer or material balance calculations.

Standard Cubic Metre (m³): One Standard Cubic Meter (Sm³) at 15°C and 101325 kPa equals 6.292955 Stock Tank Barrel (stb) at Reference state 60°F and 14.73 psia.

Tank Gauging: The procedure for measuring the depth and temperature of Crude Oil in a storage tank for the purpose of determining the volume thereof by use of a Tank Table.

Tank Strapping: The procedure for the measurement of a storage tank to determine the dimensions thereof necessary for the production of a Tank Table.

Tank Table: The depth/volume table prepared for a particular storage tank by means of Tank Strapping showing the volume thereof at any given depth.

1.2 System of Measurement

The Metric International System of Measurement, as set forth in API MPMS, chapter 15, "Guidelines for the Use of the International System of Units (SI) in the Petroleum and Allied Industries", shall be used. Conversion factors from other measuring units currently in general use to the Metric International System of Measurements shall be those found in said chapter 15.

2. MEASUREMENTS, TESTS AND SAMPLING INSTALLATIONS

2.1 General Description of Installations

This Exhibit B is a general description of custody transfer installations in the Transportation System, operating procedures for said installations and references to relevant codes and/or practices which are to apply, all as necessary to conduct custody transfer measurements, tests and sampling of Crude Petroleum and Finished Products in the Transportation System pursuant to the Agreement. Exhibit A, the Transportation System includes schematics of the Transportation System locating some of the installations referred to in this Exhibit B to the Agreement.

2.2 Applicable Standards

All Measurements, Tests, Sampling, and procedures etc. related hereto shall be performed in accordance with FOR 2001-11-01 nr. 1234 including references to API MPMS and NORSOK I-104 and NORSOK I-105, however excluding those provisions of FOR 2001-11-01 nr. 1234 not relevant to the application under the Agreement such as Article 1 (Territory), Article 29 as regards the provisions relating to the reporting to the PetroBank-system) and all provisions relating to reporting to OED (Olje- og energidepartementet). As FOR 2001-11-01 nr. 1234 makes use of references to API MPMS any references made to API MPMS in this Exhibit B shall be seen as a reference to the actual acting standard specific for the item in question.

2.3 Flow Meter Installations

Flow meter installations are provided for custody transfer measurements, allocation and/or leak detection purposes. The flow meter installations are designed, installed and operated to meet customary oil field requirements for custody transfer measurements in accordance with relevant chapters of API MPMS as follows:

Chapter 4: Proving Systems

Chapter 5: Metering

Chapter 6: Metering Assemblies

and relevant ANSI, API and ASME codes for piping, valves, fittings, etc.

2.3.1 Locations of Flow Meter Installations

Locations of flow meter installations cf. Exhibit A to the Agreement, having custody transfer capabilities are:

- a. The Gorm "E" Platform - discharge lines downstream export pumps;

- b. The Stabilisation Plant – product line upstream Propane and Butane storage;
- c. The Stabilisation Plant – HP/LP Fuel Gas export lines upstream battery limit;
- d. The Stabilisation Plant – LP Fuel Gas import line downstream battery limit;
and
- e. Nybro Gas Treatment Plant - condensate injection line if in use.

Reference is made to Section 2.3 below for custody transfer measurements.

2.3.2 Flow Meter Installation Components

Each flow meter installation shall incorporate the following primary components a. to f.:

- a. Multiple meter runs if required by measuring principles, each having an upstream isolating valve, flow meter, flow control valve, prover/master inlet valve and downstream isolating valve;
- b. Pressure and temperature measurement devices and connections;
- c. Installation of flow meters in master/slave-configuration or alternatively bi-directional prover loop with 4-way diverter valve or other mutually agreed proving system;
- d. An in-line continuous analyser or an in-line flow proportional sampler installed and operated with standards and procedures in this Exhibit B;
- e. All associated components and instrumentation for local/remote operation/transmission of data; and
- f. A Density measurement device.
- g. Any measured mass of Crude Petroleum and Finished Products shall be converted to volume at Standard Conditions in accordance with API MPMS, chapter 12 “Calculation of Petroleum Quantities”. Continuous Density analysers are installed in connection with each flow meter installation to enable continuous determination of the density of the total flow being metered.

however with below deviations:

- Sampling of Propane and Butane, HP/LP Fuel gas export and LP fuel gas import will be done by manual sampling as stated in 2.5.1.
- Online Density determinations of HP/LP Fuel gas export and LP fuel gas import can be done based on manual samples

2.3.3 Operations of Flow Meter Installations

Operations of flow meter installations shall be performed by Transporter or the respective operators with whom Transporter enters into separate operating and/or service agreements. Said agreements shall incorporate the general and specific requirements set forth in this Exhibit B.

Further, said agreements shall permit more detailed procedures to be developed in accordance with specific needs. Such procedures may be reviewed from time to time and modified, if operating experience or requirements in Transporters reasonable opinion indicate this to be appropriate or necessary.

2.3.4 Calibration of Master Meters

The Master Meters shall be recalibrated at intervals not exceeding two (2) years and in accordance with relevant sections of API MPMS, chapter 5.6.

Maintenance work on a Master Meter that could affect the accuracy shall be followed by a recalibration. A fourteen (14) day prior notice shall be given of all Master Meter calibrations to Transporter and the Relevant Authorities, who shall be permitted to witness the same.

2.3.5 Meter Characteristics

Meters selected for use in the flow meter installations herein shall be in compliance with all relevant API specifications.

2.3.6 Meter Proving

Meter Proving shall be performed in accordance with good industry practices within the oil and gas industry and shall comply with procedures/standards as approved by the Relevant Authority. The frequency of Meter Proving shall be in accordance with FOR 1234 or as otherwise accepted by Producers and approved by the Relevant Authority. Meter Proving shall also be performed if variations in flow rates or composition of the Crude Petroleum indicate that this is required.

2.3.7 K-Factor or Meter Factor

K-factors or meter factors shall be determined from 6 hours proving with the Master Meter and one Duty Meter in series in accordance with relevant standards . Full details of the Meter Proving runs together with flow rates, pressures, temperatures and other relevant information shall be recorded on appropriate reports used for this purpose.

2.3.8 General Procedures

Metering stations shall be operated and maintained in accordance with manufacturer's recommendations and good industry practices within the oil and gas industry and shall comply with procedures/standards as approved by the Relevant Authority.

2.4 Tankage

Tankage is provided at the Terminal for the storage of Crude Oil and at the Stabilisation Plant for the storage of Propane and Butane. Each tank is complete with remote gauging equipment, necessary walkways etc., to permit tank gauging to be done by hand. Tank Tables are developed for each storage tank for use in custody transfer measurements and shall be revised in accordance with Section 2.4.1.

2.4.1 Tank Strapping

Tank Strapping shall be performed in accordance with relevant standards in API MPMS, chapter 2, "Tank Calibration" or such other methods which may be adopted by API or ASTM or ISO Standards 7507-3 1993. Bench marks shall be established, recorded and periodically reviewed to determine settlements of tanks and the validity of prior strapping. Re-strapping shall be done if and when necessary to maintain accurate Tank Tables.

2.4.2 Tank Gauging and Sampling

All measurement and Sampling for the purpose of custody transfer shall be performed in accordance with API MPMS, chapter 3, "Standard Practice for the Manual Gauging of Petroleum and Petroleum Products", and chapter 8.1 "Manual Sampling of Petroleum and Petroleum Products, 3rd Edition, October 1995, Reaffirmed March 2006". Measurement for Month end inventory and water drainage shall be accomplished using the automatic gauging system operated in accordance with API MPMS, chapter 3.1B "Standard Practice for Level Measurement of Liquid Hydrocarbons in Stationary Tanks by Automatic Tank Gauging, 2nd Edition, June 2011, Reaffirmed October 2006".

Temperatures are determined in accordance with API MPMS, chapter 7 "Temperature Determination", 1st Edition, June 2001, Reaffirmed March 2007.

2.5 Sampling Facilities

The sampling points must be located close to the defined custody transfer points and/or anywhere needed to support the Allocation Procedure.

Whenever automatic sampling is applied at a defined custody transfer point it shall be performed in accordance with API MPMS chapter 8.2 "Standard Practice for

Automatic Sampling of Petroleum and Petroleum Products”, SECOND EDITION, OCTOBER 1995, REAFFIRMED 2010.

2.5.1 Sampling Point Locations – Purpose, Method and Minimum Sampling Frequencies

Locations of sampling points, as specified in Exhibit A to the Agreement, purpose, method and minimum Sampling frequencies:

- a. The Gorm "E" Platform - discharge lines downstream export pumps: Pressurised Sampling for BS&W, RVP and composition is performed by automatic flow proportional grab Sampling.
- b. The Terminal - incoming Crude Petroleum line downstream dewatering facilities: Pressurised Sampling for BS&W, RVP and composition is performed as weekly manual Sampling or as otherwise agreed.
- c. The Stabilisation Plant - product line upstream Propane and Butane storage tanks: Pressurised Sampling is performed for composition by weekly manual sampling or when loading, whichever comes first.
- d. The Stabilisation Plant - HP/LP Fuel Gas export lines upstream battery limit: Pressurised Sampling is performed for composition by Monthly manual sampling, as required for other purposes or when needed due to changed conditions.
- e. The Stabilisation Plant - LP Fuel Gas import line downstream battery limit: Pressurised Samples are provided by exporter. Composition analysis should be supplied at least on a Monthly basis or whenever needed due to changed conditions.
- f. Nybro Gas Treatment Plant – Pressurised Sampling shall be performed at the Condensate injection line if in use.
- g. Crude Oil Storage Tanks - Sampling for composition and BS&W is performed weekly by manual spot sampling or before loading.

3. QUALITY DETERMINATION AND ANALYSIS PROCEDURES

The samples collected in accordance with Section 2.3.2 or collected from an automatic sampler in accordance with Section 25. shall be analysed for BS & W in accordance with API MPMS Chapter 10.9 "Standard Test Method for Water in Crude Oil by Karl Fischer Titration, 2nd Edition, December 2002, Reaffirmed October 2006" and Chapter 10.8 "Standard Test Method for Sediment in Crude Oil by Membrane Filtration, 2nd Edition, November 2005, Reaffirmed March 2010" or Chapter 10.1 "Determination of Sediment in Crude Oils and Fuel Oils by the Extraction Method, 3rd Edition, November 2007". Alternatively, BS & W can be determined by API MPMS Chapter 10.3 "Standard Test Method for Water and Sediment in Crude Oil by the Centrifuge Method (Laboratory Procedure), 3rd Edition, May 2008" or "Water in Crude Oil by Distillation", ASTM D4006.

Density and RVP of collected samples shall be determined in accordance with ASTM D 4052 "Standard Test Method for Density and Relative Density of Liquids by Digital Density Meter" and ASTM D 323 "Standard Test Method for Vapour Pressure of Petroleum Products (Reid Methods)", Procedure A for petroleum products with an RVP below 180 kPa / 26 psi absolute pressure or procedure C for petroleum products with an RVP above 180 kPa / 26 psi absolute. Density can be determined by API MPMS Chapter 9.1 "Standard Test Method for Density, Relative Density (Specific Gravity), or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method, 2nd Edition, December 2002, Reaffirmed October 2005", or in accordance with ASTM D 1298.

Calculated RVP under the Agreement shall refer to ASTM D 323 "Standard Test Method for Vapour Pressure of Petroleum Products (Reid Methods)".

Water and Density can also be determined from in-line continuous analysers. Where an in-line analyser is used for water measurements, periodic sediment analyses as agreed shall be made on representative samples.

Sampling of the Crude Oil in each storage tank at the Terminal shall be carried out prior to each off take. Additional sampling may occasionally be needed for Transporter's accounting purposes. Further automatic sampling may be required at a future date at the Terminal if and when continuous Metering in lieu of Tank Gauging is selected for custody transfer.

Laboratory composition analysis of the samples taken must be carried out for allocation and value adjustment purposes and at least at a Monthly basis or as otherwise agreed in the Producers Forum.

The collection of samples shall comply with the above mentioned standards, and all analysis shall be carried out according to API MPMS. Provisions shall be made to obtain and process special manual samples in the event of material changes, where operational requirements dictate or Transporter's suspicion of material changes, in the composition of the Crude Petroleum delivered to the Transportation System. If Crude Petroleum is delivered from Nybro Gas Treatment Plant, volume measurement and quality analysis of the stream being added shall be carried out. Suitable correction for shrinkage resulting from such injection must be agreed upon.

The monitoring of H₂S content shall be in accordance with good practices within the oil and gas industry as well as any rules and regulations laid down by Transporter or his designated operator. Furthermore, all public requirements in force shall be adhered to.

Analysis for H₂S content shall be carried out in accordance with the Transporter's designated operator's procedures as approved by Transporter.

4. NOTIFICATION

Transporter may appoint a representative(s) to witness calibrations of provers, meters, Meter Proving, Sampling, Tank Gauging, or any other pertinent or related activities under the Agreement.

Transporter shall notify Producers at least fourteen (14) days in advance of its planned schedule for any Meter Prover recalibration or storage tank re-strapping involved in custody transfer movements.

5. DOCUMENTATION AND RECORDS

5.1 Availability to Producers and Other Producers

Documentation and records of all installations related to Measurements, Tests and Sampling shall be available for inspection and review by Producers. Transporter shall ensure that the designated operators pursuant to any operating and/or service agreement provide adequate documentation and routine updating of said information.

5.2 Retention Period

Information related to delivery of Crude Petroleum and redelivery of Finished Products shall be retained as provided for in Transporter's accounting procedures applicable pursuant to the Agreement..

5.3 Documentation to be kept by Transporter or his Designated Operators

5.3.1 Meter Data - General

Transporter or his designated operators shall maintain a record for each Meter detailing all serial number, and any maintenance work done on the Meter and its associated equipment.

A record shall be kept for each flow meter showing details of:

- a. type and identifying particulars, including location and product measured;
- b. totaliser reading(s) including pressure, temperature and Density of the Crude Petroleum on commencement of Metering;
- c. all mechanical or electrical repairs or adjustments made to the meter of its read-out equipment;
- d. Metering errors due to equipment malfunction, incorrect operation, etc. including date, time and totaliser readings both at the time of recognition of an error condition and when remedial action is completed;
- e. alarms, together with reasons;
- f. any breakdown of meter or withdrawal from normal service, including time and totaliser readings;
- g. replacement of security seals when broken; and
- h. any replacement of meter.

- i. Meter calibration certificates and relevant certificates such as pressure stress test certificates for Coriolis meters.

5.3.2 Flow Meter Records

Transporter or his designated operator shall keep a Master Meter/calibration record for each flow meter, giving the full details of each calibration. This record shall include a running plot, or similar control chart, so that any undue change or fluctuation in factors may be easily detected.

A manual record or automatic recording shall also be kept, at intervals of not more than twenty-four (24) hours, of flow rates, flow totals, BS & W, Density and RVP.

Where Sampling of Crude Petroleum is carried out the results of these samples shall be recorded on a daily basis or as otherwise agreed.

5.3.3 Storage Tank Records

Transporter or his designated operator shall maintain a record for each storage tank, including details of Tank Strapping data, any other data used in developing Tank Tables, bench mark elevations, and other relevant information.

5.4 Records for the Relevant Authorities

All of the foregoing records shall be available upon request for inspection by the Relevant Authorities.

6. REVISIONS OR CHANGES

It is acknowledged that revisions and/or changes of design concept may be necessary from time to time in order to enhance the accuracy and reliability of measurement installations.

In making any change of design or instrumentation, Transporter shall consider systems which have proven their reliability and integrity elsewhere in similar applications. All such changes shall be in compliance with relevant codes.

Transporter shall notify Producers of the need for such changes before any change of significance is undertaken. No changes shall be carried out before all necessary approvals have been granted by the Relevant Authority.

7. MEASUREMENT REPORTS

Measurement reports and/or Meter Calibration reports shall be kept by Transporter or his designated operator using meter readings with associated accumulated sample results and mean temperatures, if applicable, for volumes of Crude Petroleum delivered during each Month.

Measurement reports and/or Meter Calibration reports, if applicable, shall be kept at the Terminal for redelivery of Finished Products other than Fuel Gas during the course of each Month.

All reports shall be completed in accordance with good gauging practices, having complete BS & W, Density, pressure and temperature data recorded, so that net volumes and/or weights may be calculated.

Comparisons of the mass of the Crude Petroleum delivered at the Gorm "E" Platform and Nybro Gas Treatment Plant with mass of Finished Products redelivered from storage tanks at the Terminal shall be made for each Month. Tank volumes used in such comparisons after recalculation to mass shall be determined by gauging the contents of each of the storage tanks at 0.00 hours the first day of each Month, or, if a redelivery is at that time being made out of a tank, by taking the content of that tank just before starting such redelivery.

In case of any material discrepancies, prompt action shall be taken to determine their source and customary reconciliation procedures shall be taken with a view to correcting such discrepancies where possible.

Reference is also made to Exhibit G, the Allocation Procedure, concerning reconciliation under the Allocation Procedures.