

The following checklist is to be completed prior to booking an initial inspection with NorthRiver Midstream (NRM). Once completed, please email a completed copy to Measurement Technical Services, mts@nrm.ca

| GENERAL INFORMATION | |
|---------------------|-------------------------|
| Date: | Site Description (LSD): |

| SECTION 1: CONTACT INFORMATION | | | |
|-----------------------------------|-----------|-------------------|--|
| Measurement Point Operator (MPO): | | MPO Company Name: | |
| Location of Tap (GPS): | Latitude: | Longitude | |
| Onsite Inspector: | Name: | Phone: | |
| Instrumentation Contractor: | Name: | Phone: | |
| IC Company: | Name: | Phone: | |

| SECTION 2: GENERAL REQUIREMENTS | | | | | |
|---|---|---|--|-----|----|
| Note: This checklist highlights key NRM requirements for Measurement Points (MP) prior to inspection. It does not include all NRM requirements; please refer to the NRM Measurement Policy for full details. | | | | | |
| Applicable Measurement Point equipment must adhere to the requirements detailed in the NRM Measurement Policy. | <table style="width: 100%; border-collapse: collapse;"> <tr style="background-color: #e0e0e0;"> <th colspan="2" style="text-align: left; padding: 5px;">Is the Measurement Point compliant with the Measurement Policy?</th> </tr> <tr> <td style="width: 50%; text-align: center; padding: 5px;">Yes</td> <td style="width: 50%; text-align: center; padding: 5px;">No</td> </tr> </table> | Is the Measurement Point compliant with the Measurement Policy? | | Yes | No |
| Is the Measurement Point compliant with the Measurement Policy? | | | | | |
| Yes | No | | | | |
| All piping and vessels, including laterals downstream of Measurement Points, must be purged and dried to meet NRM moisture requirements. | <table style="width: 100%; border-collapse: collapse;"> <tr style="background-color: #e0e0e0;"> <th colspan="2" style="text-align: left; padding: 5px;">Has the Measurement Point piping and lateral been dried?</th> </tr> <tr> <td style="width: 50%; text-align: center; padding: 5px;">Yes</td> <td style="width: 50%; text-align: center; padding: 5px;">No</td> </tr> </table> | Has the Measurement Point piping and lateral been dried? | | Yes | No |
| Has the Measurement Point piping and lateral been dried? | | | | | |
| Yes | No | | | | |
| NRM requires two weeks' notice to schedule a measurement technician to perform the initial inspection and verification; please contact mts@nrm.ca to schedule an inspection. | <table style="width: 100%; border-collapse: collapse;"> <tr style="background-color: #e0e0e0;"> <th colspan="2" style="text-align: left; padding: 5px;">NRM MTS contacted 2 weeks prior to start up?</th> </tr> <tr> <td style="width: 50%; text-align: center; padding: 5px;">Yes</td> <td style="width: 50%; text-align: center; padding: 5px;">No</td> </tr> </table> | NRM MTS contacted 2 weeks prior to start up? | | Yes | No |
| NRM MTS contacted 2 weeks prior to start up? | | | | | |
| Yes | No | | | | |
| The metering equipment must be properly protected from the elements. | <table style="width: 100%; border-collapse: collapse;"> <tr style="background-color: #e0e0e0;"> <th colspan="2" style="text-align: left; padding: 5px;">Metering protected from elements?</th> </tr> <tr> <td style="width: 50%; text-align: center; padding: 5px;">Yes</td> <td style="width: 50%; text-align: center; padding: 5px;">No</td> </tr> </table> | Metering protected from elements? | | Yes | No |
| Metering protected from elements? | | | | | |
| Yes | No | | | | |

| SECTION 2: GENERAL REQUIREMENTS (Cont'd) | |
|--|---|
| Measurement Points must have a sample point compliant with the Measurement Policy. | Sample probe(s) installed as per specifications? |
| | Yes No |
| | Initial Methanol Rate: |
| | Quantity: |
| The Measurement Point must be pressurized at the time of arrival. A dew point must be taken to ensure the moisture dewpoint meets specifications in the Measurement Policy. | Will the facility piping be at sales pressure for the inspection? |
| | Yes No |
| | Expected Pressure: |
| | Moisture Dewpoint: |
| Measurement Points shipping to Fourth Creek, Gordondale East, Pouce Coupe, and West Doe plants require methanol injection to suppress hydrate formation (not required if the sales gas is dehydrated to NRM requirements). | Initial Methanol Rate: |
| Provide the manufacturer product or blend of corrosion inhibitors used at the Measurement Point. | Manufacturer/Blend: |
| | Quantity: |
| | Pigging Frequency: |

| SECTION 3: PRESSURE CONTROL AND OVERPRESSURE | |
|---|--|
| Note: After inspection, a completed PCOPP form, including all required signatures, with correct traceability to the PC/OPP devices and tag numbers that match the P&IDs, must be emailed to mts@nrm.ca | |
| Over Pressure Protection (OPP) system must be completely stand-alone, of electric, pneumatic, or mechanical fail-safe design and operational. OPP system must not be controlled using a PLC. | Is the OPP stand-alone and fail-safe? |
| | Yes No |
| Pressure Control (PC) must limit the pressure to no more than 100% of the NRM specified pipeline pressure, and Overpressure Protection must limit the pressure to no more than 110% of the NRM pipeline pressure. | Will the Pressure Control and Overpressure Protection devices be tested to trip at set point and not exceed NRM MOP? |
| | Yes No |
| PC and OPP systems shall be specifically designated to protect NRM piping. | Are any valves capable of over-riding, bypassing, or isolating the PC/OPP device? |
| | Yes No If so, secure the valve in the normal operating position with an NRM car seal. |
| NRM may inspect and witness the calibration and function test. | Have the Pressure Control and Overpressure Protection devices been installed as per the provided PC/OPP P&IDs and Written Description? |
| | Yes No |

| SECTION 4: INSTRUMENT REQUIREMENTS | |
|--|---|
| NRM requires all transmitters and analyzers to be powered, wired, and function tested prior to site inspection. | Has the site elevation been calculated? |
| | Yes No N/A |
| Calibrating equipment used for Measurement Point must meet NRM specifications. For pressure equipment, a dry pressure source such as nitrogen shall be used for calibration for pressure equipment. Liquid mediums are not to be used for calibration. | Will the MPO have suitable calibration equipment on-site and a copy of the certificate verifying the annual certification of the testing equipment? |
| | Yes No |
| The MPO's instrumentation personnel must have the correct software and must be able to communicate with the EFM device. | EFM software available on-site? |
| | Yes No |
| | EFM Powered and Wired? |
| Yes No N/A | |
| To properly verify the EFM flow calculations, the Instrumentation contractor shall have AGA calculation software available on site. | Does the Instrumentation Contractor have AGA calculation software available? |
| | Yes No |
| The gas and/or liquid composition programmed into the EFM device shall be updated with the most recent or representative analysis. | Is there an applicable gas analysis available on site? |
| | Yes No |
| NRM requires the atmospheric pressure based on the actual elevation to be programmed into the electronic flow measurement device. | Has the Instrumentation contractor completed the calibration of the EFM devices? |
| | Yes No |
| | Is a copy of the EFM calibration available on-site? |
| Yes No | |
| The MPO's instrumentation personnel will verify and calibrate the EFM device prior to the site inspection by NRM personnel. | Has the Instrumentation contractor completed the calibration of the EFM devices? |
| | Yes No |
| | Is a copy of the EFM calibration available on-site? |
| Yes No N/A | |

| SECTION 5: COMMUNICATIONS (FORT NELSON, MCMAHON, AND DAWSON CREEK SITES ONLY) | | | |
|---|--|---------------|---------------------------|
| NRM requires the RTU to be powered, wired, commissioned, and function tested prior to site inspection. | RTU Powered and Wired? | | |
| | Yes | No | N/A |
| | Panel Powered, Wired, and Function Tested? | | |
| | Yes | No | N/A |
| MPOs must install a communications link between the EFM and RTU device to NRM where specified. The MPO must contact NRM two weeks in advance to arrange the SCADA commissioning, including a point-to-end device check. NRM will provide a SCADA Address SCADA on-call: (250) 794-4238. NRM will provide a copy of the base configuration file' to be downloaded into the EFM/RTU. NRM will only dispatch personnel to the site after they have verified on SCADA that all required equipment is communicating on SCADA. For further details, please contact mts@nrm.ca | Are communications commissioned and operating? | | |
| | | Yes | No |
| | EFM | RTU | N/A Chart Recorder |
| | Make: | | |
| | Model: | | |
| | Address: | | |
| | Radio | SRT Microwave | MDS-UHF |
| | Phone (dial-up) | Cell | Landline |
| | Switch: | | |
| | Address: | | |
| Phone Number: | | | |
| EFM and RTU devices with a communications link to NRM are not to be time synced, enabled or adjusted for daylight savings time , as these adjustments can cause the flow computer to issue incorrect volumetric records. | Time Synchronization Turned Off? | | |
| | | Yes | No |

NOTES AND ADDITIONAL INFORMATION

Completed By: _____

Signature: _____

Title: _____

Date: _____

Return the fully completed Pre-Inspection Checklist to: mts@nrm.ca