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July 5, 2016

Re: Rule Making 7-20-2016  
Subject : Oil and Gas Metering  
Idaho Department of Lands

During the 7-20-2016 Rule Making activities the subject of metering and checking meters was brought up. This subject has been raised numerous times by various groups throughout the rule making process and no clear results or pathway forward has been determined. It was explained to the participants is that at this point metering would have to be dealt with at a later time because there was simply not time to cover it in this rule making.

In the interest of protecting the Correlative Rights of Landowners, the State of Idaho, and all mineral owners allowing 6 months , another year, or even 1 month to go by without proper metering should simply be unacceptable. This issue is easily corrected and should be corrected for the best interest of all.

Meters are subject to failure or losing calibration for a variety of reasons. Every day operations, handling, temperature, and just simple malfunction or failure can result in small variances adding up over time, or large variances in measurement adding up over time and these issues are just too simple to monitor and correct. It can be done with little or no expense top the state and be readily available for anyone to inspect at all times.

Below is the metering statute from the State of North Dakota as well as the language from The State of Idaho. The North Dakota language is simple practical and affords protection and a check and balance favorable to everyone. This metering regulation should simply be added into the metering section of the Idaho Rulemaking draft and incorporated into the program. Anything less would not be in the best interest of following the national standard, or protecting the rights of everyone involved as well as preventing waste.

Most states do not read meters nor would this be practical. They do ALL however require certain standard guidelines and practices to be followed. Constant meter proving and calibration monitoring is a standard industry wide. Just as the scale at your local grocer or the gas pump everyone uses weekly is calibrated and certified, so are meters in the oil and gas industry.

**C.J. McDonald**

**Lone Tree Petroleum, Inc.**

## Idaho Metering Language

### 401. MEASUREMENT OF OIL.

The volume of production of oil shall be computed in terms of barrels of clean oil on the basis of meter measurements or tank measurements of oil-level difference made and recorded to the nearest quarter-inch (1/4") of one hundred percent (100%) capacity tables, subject to the following corrections: (10-21-92)

1) **Correction for Impurities.** The percentage of impurities (water, sand, and other foreign substances, not constituting a natural component part of the oil) shall be determined to the satisfaction of the Department, and the observed gross volume of oil shall be corrected to exclude the entire volume of such impurities.

(3-29-12)

2) **Temperature Correction.** The observed volume of oil corrected for impurities shall be further corrected to the standard volume at sixty (60) Degrees F in accordance with ASTM ~~D-1250-08, Table 7~~D1250 Tables, or any revisions thereof and any supplements thereto, or any close approximation thereof approved by the Department.

~~(3-29-12)~~( )

**03. Gravity Determination.** The gravity of oil at sixty (60) degrees F shall be determined in accordance with ASTM ~~D-1250-08, Table 5~~D1250 Tables, or any revisions thereof and any supplements thereto approved by the Department. ~~(3-29-12)~~( )

### 402. MEASUREMENT OF GAS.

e. **Gas Metering.** For protection of correlative rights of all parties, the owner or operator of a natural gas well shall meter or caused to be metered all natural gas produced from a well, utilizing a standard industry meter approved by the American Gas Association and capable of recording accurately the volume of natural gas produced at each well, unless another methodology, approved by the director, is utilized to provide for proper production allocation back to the individual well from a central point production meter or central point sales meter, which ever meter occurs first. (3-29-12)

f. **Gas Measurement.** For computing volume of gas to be reported to the Department, the standard of pressure shall be ~~fourteen point seventy three (14.73)~~14.696 psi atmospheric, and the standard of temperature shall be sixty (60) Degrees F. All volumes of gas to be reported to the Department shall be adjusted by computation to these use authorized by the Department. (3-29-12)( )

## North Dakota Metering Language

### Oil and Gas Metering Systems.

1. **Application of section.** This section is applicable to all metering stations measuring production from oil and gas wells within the state of North Dakota, including private, state, and federal wells. If these rules differ from federal requirements on measurement of production from federal oil and gas wells, the federal rules take precedence.

3) **Definitions.** As used in this section:

- a) "Allocation meter" means a meter used by the producer to determine the volume from an individual well before it is commingled with production from one or more other wells prior to the custody transfer point.
- b) "Calibration test" means the process or procedure of adjusting an instrument, such as a gas meter, so its indication or registration is in satisfactorily close agreement with a reference standard.
- c) "Custody transfer meter" means a meter used to transfer oil or gas from the producer to transporter or purchaser.
- d) "Gas gathering meter" means a meter used in the custody transfer of gas into a gathering system.
- e) "Meter factor" means a number obtained by dividing the net volume of fluid (liquid or gaseous) passed through the meter during proving by the net volume registered by the meter.
- f) "Metering proving" means the procedure required to determine the relationship between the true volume of a fluid (liquid or gaseous) measured by a meter and the volume indicated by the meter.

4) **Inventory filing requirements.** The owner of metering equipment shall file with the commission an inventory of all meters used for custody transfer and allocation of production from oil or gas wells, or both. Inventories must be updated on an annual basis, and filed with the commission on or before the first day of each year, or they may be updated as frequently as monthly, at the discretion of the operator. Inventories must include the following:

- a) Well name and legal description of location or meter location if different.
- b) North Dakota industrial commission well file number.
- c) Meter information:
  - i) Gas meters:
    - (1) Make and model.
    - (2) Differential, static, and temperature range.
    - (3) Orifice tube size (diameter).
    - (4) Meter station number.
  - ii) Oil meters:

- 5) **Installation and removal of meters.** The commission must be notified of all custody transfer meters placed in service. The owner of the custody transfer equipment shall notify the commission of the date a meter is placed in service, the make and model of the meter, and the meter or station number. The commission must also be notified of all metering installations removed from service. The notice must include the date the meter is removed from service and the meter or station number. The required notices must be filed with the commission within thirty days of the installation or removal of a meter.

All allocation meters must be approved prior to installation and use. The application for approval must be on a sundry notice (form 4) and shall include the make and model number of the meter, the meter or station number, the well name, its location, and the date the meter will be placed in service.

Meter installations for measuring production from oil or gas wells, or both, must be constructed to American petroleum institute or American gas association standards or to meter manufacturer's recommended installation. Meter installations constructed in accordance with American petroleum institute or American gas association standards in effect at the time of installation shall not automatically be required to retrofit if standards are revised. The commission will review any revised standards, and when deemed necessary will amend the requirements accordingly.

- 6) **Registration of persons proving or testing meters.** All persons engaged in meter proving or testing of oil and gas meters must be registered with the commission. Those persons involved in oil meter testing, by flowing fluid through the meter into a test tank and then gauging the tank, are exempted from the registration process. However, such persons must notify the commission prior to commencement of the test to allow a representative of the commission to witness the testing process. A report of the results of such test shall be filed with the commission within thirty days after the test is completed. Registration must include the following:

- a) Name and address of company.
- b) Name and address of measurement personnel.
- c) Qualifications, listing experience or specific training.

Any meter tests performed by a person not registered with the commission will not be accepted as a valid test.

- 7) **Calibration requirements.** Oil and gas metering equipment must be proved or tested to American petroleum institute or American gas association standards or to the meter manufacturer's recommended procedure to establish a meter factor or to ensure measurement accuracy. The owner of a custody transfer meter or allocation meter shall notify the commission at least ten days prior to the testing of any meter.

- a) Oil allocation meter factors shall be maintained within two percent of original meter factor. If the factor change between provings or tests is greater than two percent, the meter must be repaired or adjusted and tested within forty-eight hours of repair or replaced.
- b) Copies of all oil allocation meter test procedures are to be filed with and reviewed by the commission to ensure measurement accuracy.
- c) All gas meters must be tested with a minimum of a three-point test for static and differential pressure elements and a two-point test for temperature elements. The test reports must include an as-found and as-left test and a detailed report of changes.

- d) Test reports must include the following:
1. Producer name.
  2. Lease name.
  3. Pipeline company or company name of test contractor.
  4. Test personnel's name.
  5. Station or meter number.
- g. Unless required more often by the director, minimum frequency of meter proving or calibration tests are as follows:
- (1) Oil meters used for custody transfer shall be proved monthly for all measured volumes which exceed two thousand barrels per month. For volumes two thousand barrels or less per month, meters shall be proved at each two thousand barrel interval or more frequently at the discretion of the operator.
  - (2) Quarterly for oil meters used for allocation of production.
  - (3) Semiannually for gas meters used for allocation of production.
  - (4) Semiannually for gas meters in gas gathering systems
  - (5) For meters measuring more than one hundred thousand cubic feet [2831.68 cubic meters] per day on a monthly basis, orifice plates shall be inspected semiannually, and meter tubes shall be inspected at least every five years to ensure continued conformance with the American gas association meter tube specifications
  - (6) For meters measuring one hundred thousand cubic feet [2831.68 cubic meters] per day or less on a monthly basis, orifice plates shall be inspected annually.
- h. Meter test reports must be filed within thirty days of completion of proving or calibration tests unless otherwise approved. Test reports are to be filed on, but not limited to, all meters used for allocation measurement of oil or gas and all meters used in crude oil custody transfer.
- i. Accuracy of all equipment used to test oil or gas meters must be traceable to the standards of the national institute of standards and technology. The equipment must be certified as accurate either by the manufacturer or an independent testing facility. The certificates of accuracy must be made available upon request. Certification of the equipment must be updated as follows:
- (1) Annually for all equipment used to test the pressure and differential pressure elements.
  - (2) Annually for all equipment used to determine temperature.
  - (3) Biennially for all conventional pipe provers.
  - (4) Annually for all master meters.
  - (5) Five years for equipment used in orifice tube inspection.

7. **Variations.** Variations from all or part of this section may be granted by the commission on the basis of economic necessity providing the variance does not affect measurement accuracy. All requests for variations must be on a sundry notice (form 4).

A register of variations requested and approved must be maintained by the commission.