

PRODUCTION MEASUREMENT AND SITE SECURITY

(Last update - August 2005)

NOTE TO INSPECTOR:

Before issuing an INC for an apparent violation, verify from on-site records or communications with the appropriate office that no waivers exist concerning said violation.

MEASUREMENT OF LIQUID HYDROCARBONS

(Last update - August 2005)

M-100

DOES THE OPERATOR ENSURE THAT ROYALTY METER FACILITIES INCLUDE THE FOLLOWING APPROVED COMPONENTS (OR OTHER MMS-APPROVED COMPONENTS) WHICH ARE COMPATIBLE WITH THE SYSTEMS TO WHICH THEY ARE CONNECTED:

A METER EQUIPPED WITH A NON-RESET TOTALIZER?

Authority: 1202(a)(2)

Enforcement Action: W/C

1202(b)(1)

1202(b)(1)(i)

INSPECTION PROCEDURE:

1. Determine by visual inspection of, and/or from onsite records, that the royalty meter in use is of a type approved by the Regional Supervisor.
2. Visually inspect recording device and determine by make and model information that the counter head being used has a totalizer intended for non-resettable service.
3. Determine continuity of totalizer service by reviewing run tickets and/or meter proving reports. Where a break in totalizer service occurs determine cause and document findings in the inspection report.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if records indicate there was a break in totalizer service.

Issue a component shut-in (C) INC if:

1. Royalty meter in use is not of a type approved by the Regional Supervisor.
2. Meter is not equipped with a non-reset totalizer.

M-101

A CALIBRATED PROVER TANK, A MASTER METER, OR A MECHANICAL DISPLACEMENT (PIPE) PROVER?

Authority: 1202(b)(1)(ii)

Enforcement Action: W/C

INSPECTION PROCEDURE:

1. Determine by on-site inspection that the facility is equipped with either a prover tank, a master meter, or a mechanical displacement prover.
2. Confirm from on-site records that the prover tank, master meter, or mechanical displacement prover has been calibrated within specified time frames.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if on-site records show last calibration to be outside of specified time period.

Issue a component shut-in (C) INC if:

1. Facility is not equipped with a prover tank, a master meter, or a mechanical displacement prover.
2. Prover tank or mechanical displacement prover has not been calibrated within the last five (5) years.
3. Master meter has not been calibrated within the last 42 days.

M-102

A PROPORTIONAL TO FLOW SAMPLING DEVICE WHICH IS PULSED BY THE METER OUTPUT?

Authority: 1202(b)(1)(iii)

Enforcement Action: C

INSPECTION PROCEDURE:

Visually inspect the sampler system for a sampling device which is pulsed by the meter output.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if:

1. Sampling device does not exist.
 2. Sampling device is not pulsed by the meter output.
 3. Sampling device is not proportional to flow or is inoperable.
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M-103

A TEMPERATURE MEASUREMENT OR TEMPERATURE COMPENSATION DEVICE?

Authority: 1202(b)(1)(iv)

Enforcement Action: C

INSPECTION PROCEDURE:

Visually inspect the metering system for one of the following temperature devices:

1. The ATC (Automatic Temperature Compensator) - non-resettable.
2. The ATG (Automatic Temperature Gravity) - gravity selective.
3. Recording temperature device (circular chart).
4. Other.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if:

1. Temperature device does not exist.
 2. Temperature device is inoperable.
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M-104

IS EACH ROYALTY METER FACILITY MAINTAINED TO ENSURE THAT METERS ARE OPERATED WITHIN THE GRAVITY RANGE SPECIFIED BY THE MANUFACTURER?

Authority: 1202(b)(3)(i)

Enforcement Action: W/C

INSPECTION PROCEDURE:

1. Visually inspect the gravity setting of each ATG and compare these findings with the gravity range specified by the manufacturer.
2. Check previous run tickets to ensure meter has operated within gravity range specified by the manufacturer.
3. Document any instances when the meter was operating out of range found in the inspection report.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if records indicate that meter has previously operated beyond manufacturer's specified limits.

Issue a component shut-in (C) INC if meter is presently operating outside of manufacturer's specified limits.

M-105

IS EACH ROYALTY METER FACILITY MAINTAINED TO ENSURE THAT METERS ARE OPERATED WITHIN THE MANUFACTURER'S SPECIFICATIONS FOR MAXIMUM AND MINIMUM FLOW RATES?

Authority: 1202(b)(3)(ii)

Enforcement Action: W/C

INSPECTION PROCEDURE:

1. Confirm from on-site records the manufacturer's specifications for maximum and minimum flow rates. If accessible, these rates can also be confirmed from visually inspecting the I.D. plate located on the meter body.
2. If meter is in operation, verify the flow rate and compare findings with the flow rate specified by the manufacturer.
3. Check previous meter proving reports to ensure that meter has operated within manufacturer's specified range for maximum and minimum flow rates. Document any instance the meter operated out of flow rate range in the inspection report.

IF NONCOMPLIANCE EXISTS:

1. Issue a warning (W) INC if records indicate that meter has previously operated beyond manufacturer's limits.
 2. Issue a component shut-in (C) INC if meter is presently operating outside of manufacturer's specified limits.
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M-106

IS EACH ROYALTY METER FACILITY MAINTAINED TO ENSURE THAT METERS ARE RE-PROVEN WHEN CHANGES IN METERING CONDITIONS AFFECT THE METERS PERFORMANCE?

Authority: 1202(b)(3)(iii)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Check on-site records to ensure meters are re-proven when changes in metering conditions affect meter performance. Changes include but are not limited to:

1. Pressure
2. Temperature
3. Gravity
4. Viscosity
5. Flow rate
6. Water cut
7. Malfunction

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if records indicate that meter has previously operated during conditions which affected its performance without being re-proven, but at present is operating within specified limits.

Issue a component shut-in (C) INC if meter is presently operating under conditions that affect meter integrity without having been re-proven.

M-107

IS THE SAMPLING DEVICE INSTALLED SUCH THAT THE SAMPLING POINT IS IN THE FLOW STREAM IMMEDIATELY UPSTREAM OR DOWNSTREAM OF THE METER OR DIVERT SYSTEM?

Authority: 1202(b)(4)(i)

Enforcement Action: C

INSPECTION PROCEDURE:

Confirm location of sampling point by visual inspection of its placement in reference to the meter or divert valve.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if sampling point is improperly placed.

M-108

IS THE SAMPLING CONTAINER FOR THE SAMPLING DEVICE VAPOR-TIGHT?

Authority: 1202(b)(4)(ii)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify the integrity of the sample container by visual inspection of the container, container cover, connections, sight glass, piping and other fittings.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if sample container is not vapor-tight and visible leakage exists.

M-109

DOES THE SAMPLE CONTAINER FOR THE SAMPLING DEVICE INCLUDE A MIXING DEVICE TO PERMIT COMPLETE MIXING OF THE SAMPLE PRIOR TO REMOVAL FROM THE CONTAINER?

Authority: 1202(b)(4)(ii)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify from on-site records of manufacturer's specifications and/or by visual inspection that the mixing device for the sample container is capable of complete mixing of the sampling prior to removal.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if mixing device does not permit complete mixing.

M-110 **IS THE SAMPLING DEVICE INSTALLED SUCH THAT THE SAMPLE PROBE IS IN THE CENTER OF THE FLOW PIPING IN A VERTICAL RUN OR DOWNSTREAM OF A MIXING DEVICE IF IN A HORIZONTAL RUN?**
Authority: 1202(b) (4) (iii) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify the sample probe is in the center of the flow piping in a vertical run or downstream of a mixing device if in a horizontal run by visual inspection.
IF NONCOMPLIANCE EXISTS:
Issue a component (C) shut-in INC if the sample probe is not in the center of the flow piping in a vertical run or downstream of a mixing device if in a horizontal run.

M-111 **IS THE SAMPLING DEVICE INSTALLED SUCH THAT THE SAMPLE PROBE IS LOCATED AT LEAST THREE PIPE DIAMETERS DOWNSTREAM OF ANY PIPE FITTING WITHIN A REGION OF TURBULENT FLOW?**
Authority: 1202(b)(4)(iii) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify location of the sample probe by visual inspection and use of a measuring tape to insure that the probe is at least three (3) pipe diameters downstream of any fitting.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if the sample probe is not located at least three (3) pipe diameters downstream of any piping fitting.

M-112 **IS THE MMS REPRESENTATIVE(S) PERMITTED TO WITNESS PROVINGS?**
Authority: 1202(d)(1) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify the MMS representative(s) are permitted to witness regularly scheduled provings or any proving requested by the Regional Supervisor.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if MMS representative(s) are not permitted to witness regularly scheduled provings or any proving requested by the Regional Supervisor.

M-113 **IS THE CALIBRATION OF EACH MECHANICAL DISPLACEMENT PROVER, PROVER TANK, OR OTHER TYPE OF PROVER TRACEABLE TO TEST MEASURES WHICH HAVE BEEN CERTIFIED BY THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY AND ARE THESE PROVERS CALIBRATED AT LEAST ONCE EVERY 5 YEARS (API MPMS)?**
Authority: 1202(d)(2) **Enforcement Action:** W
1202(f)(1)
INSPECTION PROCEDURE:
Verify from on-site or field office records that the integrity of the calibration (i.e., waterdraw) of each mechanical displacement prover, prover tank, or any other type of prover has been certified by the National Institute of Standards and Technology.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if certification cannot be verified.
Note: State on the INC that the prover cannot be used until certification is verified.

M-114 **IS THE MASTER METER CALIBRATED TO OBTAIN A MASTER METER FACTOR BEFORE USING THE MASTER METER TO ESTABLISH AN OPERATING METER FACTOR?**
Authority: 1202(e)(1) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify the master meter is calibrated to obtain a master meter factor before using the master meter to establish an operating meter factor.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if the master meter is not calibrated to obtain a master meter factor before using the master meter to establish an operating meter factor.

- M-115** **IS THE MASTER METER CALIBRATED WITH A FLUID OF SIMILAR GRAVITY, VISCOSITY, FLOW RATE, AND TEMPERATURE AS FLOWS THROUGH THE OPERATING METER?**
Authority: 1202(e)(2) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify the master meter is calibrated with a fluid of similar gravity, viscosity, flow rate, and temperature as flows through the operating meter.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if the master meter is not calibrated with a fluid of similar gravity, viscosity, flow rate, and temperature as flows through the operating meter.
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- M-116** **IS THE MASTER METER CALIBRATION BEING CONDUCTED MONTHLY BUT WITH THE TIME BETWEEN CALIBRATION NOT EXCEEDING 42 DAYS (OR AS OTHERWISE APPROVED BY THE DISTRICT MANAGER)?**
Authority: 1202(e)(3) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify by the operator's records if the master meter calibration is being conducted monthly but not exceeding 42 days.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if the records indicate the master meter calibration is not being conducted monthly or if it does exceed 42 days (or as otherwise approved by the District Manager).
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- M-117** **DOES THE LESSEE CALIBRATE A MASTER METER BY CONDUCTING AND RECORDING RUNS?**
Authority: 1202(e)(4) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify by on-site inspection and lessee records if the master meter is being calibrated by conducting and recording runs.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if the inspection or the records show the lessee is not calibrating the master meter by conducting and recording runs.
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- M-118** **IS THE AVERAGE OF THE RUNS WHICH PRODUCED THE ACCEPTABLE RESULTS USED TO COMPUTE THE MASTER METER FACTOR?**
Authority: 1202(e)(4) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify if the average of the runs which produced the acceptable results were used to compute the master meter factor.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if the average of the runs was not used to compute the master meter factor.
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- M-119** **IS THE MASTER METER INSTALLED UPSTREAM OF ANY BACK-PRESSURE OR REVERSE FLOW CHECK VALVES ASSOCIATED WITH THE OPERATING METER?**
Authority: 1202(e)(5) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify by on-site inspection if the master meter is installed upstream of any back-pressure or reverse flow check valves associated with the operating meter.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if the master meter is not installed upstream of any back-pressure or reverse flow check valves associated with the operating meter.
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M-120

IS EACH OPERATING ROYALTY METER PROVED TO DETERMINE THE METER FACTOR EACH MONTH, WITH THE TIME BETWEEN METER FACTOR DETERMINATIONS NOT EXCEEDING 42 DAYS?

Authority: 1202(d)(3)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify from appropriate office records or from on-site calibration records that each meter has been proven within specified time limits.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if records show that proving occurred outside of specified time periods.

Issue a component shut-in (C) INC if operating meter(s) have not been proven within 42 days.

M-121

WHEN ESTABLISHING AN OPERATING METER FACTOR WITH A PROVER TANK, ARE PROOF RUNS MADE AND RECORDED?

Authority: 1202(h)(3)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by on-site witnessing of proof runs and by reviewing calibration records of prover tank.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if proof runs are not recorded and calibration records are not available.

Issue a component shut-in (C) INC if proof runs were either not run or not recorded for the prover tank.

M-122

IS THE AVERAGE OF THE RESULTS OF TWO ACCEPTABLE CONSECUTIVE RUNS ON A PROVER TANK USED TO COMPUTE THE METER FACTOR?

Authority: 1202(h)(3)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by on-site inspection or by reviewing calibration records that:

1. Two consecutive runs produce results such that the difference between results is not greater than 0.0005.
2. The average of these two runs is used to compute the meter factor.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if operating meter factor was established without following the prescribed procedure.

M-123

WHEN ESTABLISHING AN OPERATING METER FACTOR WITH A MASTER METER, HAS THE OPERATOR RECORDED PROOF RUNS UNTIL 3 CONSECUTIVE RUNS PRODUCE A TOTAL METER FACTOR DIFFERENCE OF NO GREATER THAN 0.0005?

Authority: 1202(h)(2)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by inspection, or lessee records, that proof runs were made to establish an operating meter factor with a master meter.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if proof runs were not made to establish an operating meter factor with a master meter.

M-124

IS THE VOLUME OF EACH PROOF RUN AT LEAST 10 PERCENT OF THE HOURLY RATED CAPACITY OF THE OPERATING METER?

Authority: 1202(h)(2)

Enforcement Action: W

INSPECTION PROCEDURE:

Verify that the volume of these runs is at least 10 percent of the hourly rated capacity of the operating meter.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if the volume of these runs is not at least 10 percent of the hourly rated capacity of the operating meter.

M-125 **IS THE AVERAGE OF THE RESULTS OF THREE RUNS USED TO COMPUTE THE MASTER METER FACTOR?**
Authority: 1202(h)(2) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify that the average of the results of three runs was used to compute the master meter factor.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if the average of the results of three runs was not used to compute the master meter factor.

M-126 **WHEN ESTABLISHING AN OPERATING METER FACTOR WITH A MECHANICAL-DISPLACEMENT PROVER, ARE PROOF RUNS MADE AND RECORDED?**
Authority: 1202(h)(1) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify by witnessing of proof runs and by reviewing calibration records of mechanical-displacement prover.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if proof runs were either not run or not recorded for the mechanical-displacement prover.

M-127 **IS THE AVERAGE OF THE RESULTS OF THE FIVE OUT OF SIX CONSECUTIVE RUNS, PRODUCE A DIFFERENCE BETWEEN INDIVIDUAL RUNS OF NO GREATER THAN .05 PERCENT, WITH A MECHANICAL-DISPLACEMENT PROVER USED TO COMPUTE THE METER FACTOR?**
Authority: 1202(h)(1) **Enforcement Action:** C
INSPECTION PROCEDURE:
Verify by on-site inspection or by reviewing calibration records that:
1. Five out of six consecutive runs produce results such that the difference between the results is not greater than 5 percent.
2. The average of the results of the five runs is used to compute the meter factor.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC if meter is operating with a meter factor that was not established as per required procedure for mechanical-displacement prover.

M-129 **ARE SAMPLES FROM AN ALLOCATION METER TAKEN CONTINUOUSLY OR DAILY, OR IN THE CASE OF TURBINE METERS, TAKEN PROPORTIONAL TO THE FLOW ONLY?**
Authority: 1202(k)(1) **Enforcement Action:** W
1202(k)(2)
INSPECTION PROCEDURE:
Verify there is equipment that allows for sampling of product that passes through the meter and that samples are taken continuously or daily.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if records indicate that samples were not taken continuously or daily.

M-130 **ARE ALLOCATION METERS MEASURING 50 BARRELS OF OIL PER DAY OR MORE PROVEN MONTHLY?**
Authority: 1202(k)(3) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify by inspection of field records or other appropriate records that allocation meter measuring more than 50 barrels of oil per day is proven at least monthly.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if:
1. An allocation meter measuring more than 50 barrels per day has not been proven monthly.
2. A review of records reveals that a period greater than a month has elapsed between any prior provings.

- M-131** **ARE ALLOCATION METERS MEASURING LESS THAN 50 BARRELS OF OIL PER DAY PROVEN EACH CALENDER QUARTER?**
Authority: 1202(k)(4) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify by inspection of field records or other appropriate records that allocation meter measuring less than 50 barrels of oil per day is proven at least each calendar quarter.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if allocation meter measuring less than 50 barrels of oil per day has not been proven each calendar quarter.
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- M-132** **IS A COPY OF EACH ALLOCATION METER PROVING REPORT KEPT AT THE FIELD LOCATION FOR A PERIOD OF 2 YEARS?**
Authority: 1202(k)(5) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify by on-site inspection that meter proving records are retained and completed for two (2) years at the field location.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if two (2) years of prior proving records are not present for review at the field location.
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- M-133** **IF AN ALLOCATION METER PROVING RESULTS IN A METER FACTOR WHICH DIFFERS FROM THE PREVIOUS METER FACTOR BY AN AMOUNT GREATER THAN 2 PERCENT AND LESS THAN 7 PERCENT, IS THE ALLOCATION METER ADJUSTED AND RE-PROVEN PRIOR TO RETURN TO SERVICE?**
Authority: 1202(k)(6) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify from on-site proving records that for any episode when the meter factor differs from the previous meter factor by more than 2 percent but less than 7 percent, the allocation meter is:
 1. Adjusted
 2. Re-proven so that meter factor differs by less than 2 percent from previous good meter factor.
 3. Returned to service.**IF NONCOMPLIANCE EXISTS:**
Issue warning (W) INC if :
 1. Review of proving records reveals that the allocation meter had a meter factor that differed from prior factor by more than 2 percent but less than 7 percent and was not adjusted and re-proven to acceptable tolerance.
 2. The allocation meter is operating with a meter factor that differs from prior meter factor by more than 2 percent but less than 7 percent and has not been adjusted and re-proven.
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- M-134** **IF AN ALLOCATION METER PROVING RESULTS IN A METER FACTOR WHICH DIFFERS FROM THE PREVIOUS METER FACTOR BY AN AMOUNT EQUAL TO OR GREATER THAN 7 PERCENT, IS THE ALLOCATION METER REPAIRED AND RE-PROVEN PRIOR TO RETURN TO SERVICE?**
Authority: 1202(k)(8) **Enforcement Action:** W
INSPECTION PROCEDURE:
Verify from on-site proving records that for any episode when the meter factor is greater than or equal to a 7 percent difference from the previous meter factor, the allocation meter is:
 1. Repaired or replaced
 2. Re-proven so that meter factor differs 7 percent or less from the previous good meter factor.
 3. Returned to service.**IF NONCOMPLIANCE EXISTS:**
Issue a warning (W) INC if:
 1. A review of proving records reveals that allocation meter had a meter factor greater than or equal to 7 percent difference from the prior factor and was not repaired and re-proven to acceptable tolerance.
 2. The allocation meter is operating with a meter factor that is greater than or equal to 7 percent from prior factor and has not been repaired and re-proven.
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M-135

IS EACH ROYALTY AND INVENTORY TANK FACILITY DESIGNATED AS A LOCATION ON WHICH ROYALTY SHALL BE BASED EQUIPPED WITH A VAPOR-TIGHT THIEF HATCH?

Authority: 1202(l)(1)

Enforcement Action: C

INSPECTION PROCEDURES:

Verify by on-site inspection that a vapor-tight thief hatch exists at designated royalty tank facilities and there is no visible evidence of leakage and gasket is in good working condition.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) for sales tank facilities that:

1. Do not have a thief hatch that can be secured vapor-tight.
2. Show visible signs of leakage.

M-136

IS EACH ROYALTY OR INVENTORY TANK DESIGNATED AS A LOCATION ON WHICH ROYALTY SHALL BE BASED EQUIPPED WITH A VENT-LINE VALVE?

Authority: 1202(l)(1)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by on-site inspection of designated royalty tank facility that any of the following exists:

1. A vent-line valve is installed.
2. The valve is operable.
3. The valve is in the closed position when not in service.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC for royalty tank facilities that:

1. Are not equipped with a vent-line valve.
2. Have a valve which is not fully functional.
3. Have a valve which is found in the open position when not in service.

M-137

IS EACH ROYALTY OR INVENTORY TANK FACILITY DESIGNATED AS A LOCATION ON WHICH ROYALTY SHALL BE BASED EQUIPPED WITH A FILL LINE DESIGNED TO MINIMIZE FREE FALL AND SPLASHING?

Authority: 1202(l)(1)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by on-site inspection that a fill line designed to minimize free fall and splashing is installed at designated royalty tank facility.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC for royalty tank facility that is not equipped with a fill line designed to limit free fall and splashing.

M-138

DOES EACH ROYALTY METER FACILITY PREVENT REVERSAL OF FLOW THROUGH THE METER?

Authority: 1202(b)(2)(i)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by on-site inspection that the royalty meter facility is designed to prevent reversal of flow through the royalty meter by the presence of a check valve (FSV) upstream or downstream of meter.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC for the royalty meter facility that is not equipped to prevent reversal of flow through the royalty meter.

M-139

DOES EACH ROYALTY METER FACILITY PROTECT METERS FROM PRESSURE PULSATATIONS OR SURGES?

Authority: 1202(b)(ii)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by on-site inspection that the royalty meter facility is designed to protect meter from incidental pressure surges by the presence of one of the following devices upstream of the meter:

1. Surge tank
2. Expansion chamber
3. Other acceptable means of protection

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC for the royalty meter facility that:

1. Is not equipped to protect meter from pressure surges.
2. Has an inoperative pressure surge protection device.

Enter one item checked for each protective device inspected.

M-140

DOES EACH ROYALTY METER FACILITY PREVENT THE METER FROM BEING SUBJECTED TO SHOCK PRESSURES WHICH ARE GREATER THAN ITS MAXIMUM RATED WORKING PRESSURE?

Authority: 1202(b)(2)(iii)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by on-site inspection and review of related records that the royalty meter facility is designed to prevent shock pressures to meter in excess of maximum rated working pressure by the presence of one of the following devices upstream of the meter:

1. Pressure-limiting valve (pressure regulator)
2. Relief valve (PSV)
3. Other acceptable means of protection

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC for the royalty meter facility that:

1. Is not equipped to prevent the meter from being subjected to shock pressure.
 2. Has an operating shock pressure protection device.
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M-141

IS THE LESSEE USING PROCEDURES AND CORRECTION FACTORS ACCORDING TO THE APPLICABLE CHAPTERS OF API MPMS, AS INCORPORATED BY REFERENCE IN 30 CFR 250.198, WHEN OBTAINING NET STANDARD VOLUME AND ASSOCIATED MEASUREMENT PARAMETERS?

Authority: 1202(a)(3)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by a review of the records that the lessee is using procedures and correction factors according to the applicable chapters of API MPMS, as incorporated by reference in 30 CFR 250.198.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if the lessee is not using procedures and correction factors according to the applicable chapters of API MPMS, as incorporated by reference in 30 CFR 250.198.

M-142

WHEN REQUESTED BY THE MMS REGIONAL SUPERVISOR, DOES THE LESSEE PROVIDE THE PIPELINE (RETROGRADE) CONDENSATE VOLUMES AS ALLOCATED TO THE INDIVIDUAL LEASES OR UNITS?

Authority: 1202(a)(4)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify that, when requested by the MMS Regional Supervisor, the lessee has provided the pipeline (retrograde) condensate volumes as allocated to the individual leases or units.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if the lessee, when requested by the MMS Regional Supervisor, has not provided the pipeline (retrograde) condensate volumes as allocated to the individual leases or units.

RUN TICKETS

(Last update – February 2004)

M-143

FOR ROYALTY METERS AND ROYALTY TANKS, DOES THE LESSEE ENSURE THAT THE RUN TICKETS CLEARLY IDENTIFY ALL OBSERVED DATA, ALL APPLICABLE CORRECTION FACTORS, ON/OFF SEAL NUMBERS, AND THE NET STANDARD VOLUME?

Authority: 1202(c)(1)
1202(c)(2)

Enforcement Action: W/C

INSPECTION PROCEDURE:

1. Verify that the royalty meter or royalty tank run tickets are available for review.
2. Review the royalty meter or royalty tank run tickets to verify that they clearly identify all observed data, all correction factors, on/off seal numbers, and the net standard volume.

IF NONCOMPLIANCE EXISTS:

1. Issue a warning (**W**) INC if the royalty meter or royalty tank run tickets are not available for review.
 2. Issue a component shut-in (**C**) INC if the royalty meter or royalty tank run tickets do not clearly identify all observed data, all correction factors, on/off seal numbers (royalty tank only), and the net standard volume.
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M-144

DOES THE LESSEE PULL A RUN TICKET AT THE BEGINNING OF THE MONTH AND IMMEDIATELY AFTER ESTABLISHING THE MONTHLY METER FACTOR OR A MALFUNCTION METER FACTOR?

Authority: 1202(c)(3)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify that the lessee pulled a run ticket at the beginning of the month and immediately after establishing the monthly meter factor or a malfunction meter factor.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (**C**) INC if the lessee has not pulled a run ticket at the beginning of the month and immediately after establishing the monthly meter factor or a malfunction meter factor.

MEASUREMENT OF LIQUID HYDROCARBONS

(Last update - February 2001)

M-150

ARE LIQUID ROYALTY METERS TAKEN OUT OF SERVICE, REPAIRED OR REPLACED, AND REPROVEN IF THE DIFFERENCE BETWEEN THE METER FACTOR AND THE PREVIOUS METER FACTOR EXCEEDS 0.0025?

Authority: 1202(i)(1)(i)

Enforcement Action: W/C

1202(i)(1)(ii)

1202(i)(1)(iii)

1202(i)(1)(iv)

INSPECTION PROCEDURE:

1. If a malfunction occurs during witnessing:
 - A. Ensure that the meter remains out of service until the malfunction is corrected.
 - B. Ensure that the average of the malfunction factor and the previous factor is applied to the production measured through the meter between the date of the previous factor and the date of the malfunction factor.
 - C. Ensure that proving reports indicate that a malfunction occurred and show all appropriate remarks regarding subsequent repairs or adjustments.

Note: If A through C above are accomplished, an INC is not warranted.

2. Check proving reports for previous meter malfunctions.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if proving reports indicate that a previous meter malfunction occurred, the meter was taken out of service, repaired or replaced, and reproved; but information as to production averaging and meter repair or replacement is not available.

Issue a component shut-in (C) INC if proving reports indicate that a previous meter malfunction occurred and the meter was not taken out of service, repaired or replaced, and reproved.

MEASUREMENT OF GAS

(Last update - February 2001)

M-200

IS THE GAS MEASURING EQUIPMENT INSTALLED AND OPERATED IN ACCORDANCE WITH THE RECOMMENDATIONS CONTAINED IN API MPMS, AS INCORPORATED BY REFERENCE IN 30 CFR 250.198?

Authority: 1203(b)(2)

Enforcement Action: W/C

INSPECTION PROCEDURE:

1. Determine by visual inspection and review of on-site records that the gas measuring equipment is installed and operated in accordance with specifications and recommendations contained in API MPMS, as incorporated by reference in 30 CFR 250.198. Use of gas meter inspection form will ensure compliance with this requirement.
2. Verify from on-site records that all data which determines the hourly meter factor is correctly recorded, including static and differential range, meter tube I.D., and orifice plate size.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if:

1. Records indicate that the meter has operated outside the limits prescribed in API MPMS, as incorporated by reference in 30 CFR 250.198.
2. Data which determine the hourly meter factor are incorrectly recorded.

Issue a component shut-in (C) INC if meter is operating outside of the limits prescribed in API MPMS, as incorporated by reference in 30 CFR 250.198.

M-201

IS THE MMS REPRESENTATIVE(S) PERMITTED TO WITNESS ALL REGULARLY SCHEDULED GAS METER CALIBRATIONS OR CALIBRATIONS REQUESTED BY THE REGIONAL SUPERVISOR?

Authority: 1203(c)(5)

Enforcement Action: W

INSPECTION PROCEDURE:

Verify the MMS representative(s) is permitted to witness all regularly scheduled gas meter calibrations or any gas meter calibration requested by the MMS Regional Supervisor.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if MMS representative(s) is not permitted to witness the gas meter calibrations.

M-202

IS EACH GAS METER CALIBRATED MONTHLY, BUT NOT TO EXCEED 42 DAYS?

Authority: 1203(c)(1)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify from visual inspection of on-site calibration records that gas meter was calibrated within last 42 days.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if 2 years of calibration test data is not available for inspection at the field location, or if review of records reveals time periods between gas meter calibrations of greater than 42 days.

Issue a component shut-in (C) INC if operating gas meter was last calibrated more than 42 days ago.

M-203

IS THE METER CALIBRATED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS?

Authority: 1203(c)(2)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify by lessee records that the meter has been calibrated according to the manufacturer's specifications.

IF NONCOMPLIANCE EXISTS:

Issue a warning (C) INC if the records show the meter has not been calibrated according to the manufacturer's specifications.

M-208

UPON REQUEST, DOES THE OPERATOR PROVIDE THE MMS REGIONAL SUPERVISOR A COPY OF THE MONTHLY GAS PROCESSING PLANT ALLOCATION STATEMENT, AND THE GROSS HEATING VALUES OF THE INLET AND RESIDUE STREAMS WHEN NOT REPORTED ON THE GAS PLANT STATEMENT?

Authority: 1203(e)(1)(i)

Enforcement Action: W

1203(e)(1)(ii)

INSPECTION PROCEDURE:

Verify that the operator, upon request, has provided the Regional Supervisor with a copy of the monthly gas processing plant allocation statement, and the gross heating values of the inlet and residue streams when not reported on the gas plant statement.

IF NONCOMPLIANCE EXISTS:

Issue a warning (**W**) INC if the operator, after requested, has not provided the Regional Supervisor a copy of the monthly gas processing plant allocation statement, and the gross heating values of the inlet and residue streams when not reported on the gas plant statements.

SURFACE PRODUCTION AND COMMINGLING

(Last update - February 2001)

M-248

HAS THE LESSEE SUBMITTED A WRITTEN APPLICATION AND RECEIVED APPROVAL FROM THE MMS REGIONAL SUPERVISOR BEFORE COMMENCING LIQUID HYDROCARBON PRODUCTION, OR THE COMMINGLING OF PRODUCTION, OR MAKING CHANGES TO PREVIOUSLY APPROVED PRODUCTION OR COMMINGLING APPLICATIONS?

Authority: 1202(a)(1)

Enforcement Action: C

1204(a)(1)

INSPECTION PROCEDURE:

Review the records to verify the lessee has submitted a written application and did receive approval from the MMS Regional Supervisor before commencing production, commingling of production, or making changes to previously approved commingling applications.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if the lessee did not submit a written application and/or approval was not received from the MMS Regional Supervisor.

M-249

UPON REQUEST, HAS THE LESSEE DELIVERING STATE LEASE PRODUCTION INTO A FEDERAL COMMINGLING SYSTEM PROVIDED THE MMS REGIONAL SUPERVISOR WITH VOLUMETRIC FRACTIONAL ANALYSIS DATA ON THE STATE LEASE PRODUCTION THROUGH THE DESIGNATED SYSTEM OPERATOR?

Authority: 1204(a)(2)

Enforcement Action: C

INSPECTION PROCEDURE:

Verify that lessee delivering State lease production into a Federal commingling system has, upon request, provided the MMS Regional Supervisor with volumetric fractional analysis data on the State lease production through the designated system operator.

IF NONCOMPLIANCE EXISTS:

Issue a component shut-in (C) INC if the lessee, upon request, has not provided the MMS Regional Supervisor with the volumetric fractional analysis data on the State lease production through the designated system operator.

M-250

DOES THE LESSEE CONDUCT A WELL TEST FOR ALLOCATION PURPOSES AT LEAST ONCE EVERY 2 MONTHS (OR AS OTHERWISE APPROVED BY THE MMS REGIONAL SUPERVISOR), AND FOLLOW THE WELL TEST PROCEDURES IN 30 CFR PART 250, SUBPART K?

Authority: 1204(b)(1)

Enforcement Action: W

1204(b)(2)

INSPECTION PROCEDURE:

Verify from appropriate records that each well has been tested for allocation purposes at least once every 2 months (or as otherwise approved by the MMS Regional Supervisor), and the well test procedures in 30 CFR part 250, Subpart K, are followed.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if records show that well tests occurred outside the 2-month period or the lessee did not follow the well test procedures in 30 CFR part 250, Subpart K.

M-251

DOES THE LESSEE RETAIN TEST DATA AT THE FIELD LOCATION FOR A PERIOD OF 2 YEARS?

Authority: 1204(b)(3)

Enforcement Action: W

INSPECTION PROCEDURE:

Verify from on-site records that test data are maintained at the field location for a period of 2 years.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if records show that test data are not maintained for a period of 2 years.

SITE SECURITY
(Last update - February 2001)

- M-298** **IS THE LESSEE PROTECTING FEDERAL PRODUCTION AGAINST PRODUCTION LOSS OR THEFT?**
Authority: 1205(a)(1) **Enforcement Action:** C/S
INSPECTION PROCEDURE:
Conduct an on-site inspection to verify the lessee is protecting Federal production against any, and all, production loss or theft.
IF NONCOMPLIANCE EXISTS:
Issue a component shut-in (C) INC for the component involved in the production loss or theft.
Issue a facility shut-in (S) INC if the lessee is not protecting Federal production against production loss or theft.
-
- M-299** **IF THEFT, MISHANDLING OF PRODUCTION, TAMPERING OR BYPASSING OF ANY COMPONENT OF THE ROYALTY MEASUREMENT FACILITY, OR THE FALSIFYING OF PRODUCTION MEASUREMENT HAS OCCURRED, DID THE LESSEE REPORT IT TO THE MMS REGIONAL SUPERVISOR AS SOON AS POSSIBLE, BUT NO LATER THAN THE NEXT BUSINESS DAY AFTER DISCOVERY?**
Authority: 1205(a)(4)(i) **Enforcement Action:** W
 1205(a)(4)(ii)
 1205(a)(4)(iii)
INSPECTION PROCEDURE:
Verify that if any of the above violations have occurred, the lessee reported the violation(s) to the MMS Regional Supervisor as soon as possible, but no later than the next business day after discovery.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if the lessee failed to report any of the above violations to the MMS Regional Supervisor within the time prescribed.
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- M-300** **ARE THE COMPONENTS OF ROYALTY MEASURING DEVICES (METERING UNITS AND TANKS) SEALED IN A MANNER TO PRECLUDE TAMPERING?**
Authority: 1205(b)(1) **Enforcement Action:** W/C
INSPECTION PROCEDURE:
Verify by on-site inspection that the components of royalty measuring devices are sealed in a manner to preclude tampering.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if seals have been broken and records do not address reason or justification.
Issue a component shut-in (C) INC if components of royalty measuring devices are not sealed in a manner to preclude tampering.
-
- M-301** **ARE WIRE OR OTHER ACCEPTABLE TYPES OF SEALS NUMBERED AND RECORDED?**
Authority: 1205(b)(3) **Enforcement Action:** W/C
INSPECTION PROCEDURE:
Verify by on-site inspection and review of appropriate records that wire or other acceptable types of seals are numbered and recorded.
IF NONCOMPLIANCE EXISTS:
Issue a warning (W) INC if seals are not recorded properly.
Issue a component shut-in (C) INC if wire or other acceptable types of seals are not numbered.
-

M-302

IS A LIST OF THE SEAL NUMBERS MAINTAINED AT THE FIELD LOCATION FOR AT LEAST 2 YEARS AND IS THE LOCATION MADE AVAILABLE FOR INSPECTION BY MMS REPRESENTATIVES?

Authority: 1205(b)(3)
1205(b)(4)

Enforcement Action: W

INSPECTION PROCEDURE:

Verify by review of appropriate on-site records that a list of the seal numbers is maintained at the field location for at least 2 years.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if:

1. The field location is not made available for inspection by MMS representatives.
 2. A list of seal numbers is not maintained at the field location for at least 2 years.
-

M-304

ARE ALL METER STACK COMPONENT CONNECTIONS, FROM THE BASE OF THE STACK TO THE REGISTER, SEALED IN SUCH A MANNER THAT TAMPERING CANNOT OCCUR WITHOUT DESTROYING THE SEAL?

Authority: 1205(b)(1)(i)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by on-site inspection that all meter stack component connections are sealed in such a manner that the component cannot be opened, closed, or altered in any way without destroying the seal.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if seal has been broken and records do not address reason or justification.

Issue a component shut-in (C) INC if a meter stack component connection is not adequately sealed.

M-305

ARE SAMPLING SYSTEMS, INCLUDING PACKING DEVICES, FITTINGS, SIGHT GLASS, AND CONTAINER LIDS, SEALED IN SUCH A MANNER THAT TAMPERING CANNOT OCCUR WITHOUT DESTROYING THE SEAL?

Authority: 1205(b)(1)(ii)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by on-site inspection that the meter sampling system, including packing device, fittings, sight glass, and container lid, is sealed in such a manner that the component cannot be opened, closed, or altered in any way without destroying the seal.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if seal has been broken and records do not address reason or justification.

Issue a component shut-in (C) INC if the sampling system and its components are not adequately sealed.

M-306

ARE COMPONENTS OF THE TEMPERATURE AND GRAVITY COMPENSATION DEVICE SEALED IN SUCH A MANNER THAT TAMPERING CANNOT OCCUR WITHOUT DESTROYING THE SEAL?

Authority: 1205(b)(1)(iii)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by on-site inspection that the components of the temperature and gravity compensation device are sealed in such a manner that the component cannot be opened, closed, or altered in any way without destroying the seal.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if seal has been broken and records do not address reason or justification.

Issue a component shut-in (C) INC if the components of the ATC or ATG are not adequately sealed.

M-307

ARE ALL VALVES ON LINES LEAVING A ROYALTY OR INVENTORY STORAGE TANK INCLUDING LOAD-OUT LINE VALVES, DRAIN-LINE VALVES, AND CONNECTION-LINE VALVES BETWEEN ROYALTY AND NON-ROYALTY TANKS SEALED IN SUCH A MANNER THAT TAMPERING CANNOT OCCUR WITHOUT DESTROYING THE SEAL?

Authority: 1205(b)(1)(iv)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by on-site inspection that all lines leaving an oil storage tank are sealed.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if seal has been broken and records do not address reason or justification.

Issue a component shut-in (C) INC if the lines leaving an oil storage tank are not adequately sealed.

M-308

IS EACH STORAGE TANK (ROYALTY OR INVENTORY) USED IN THE ROYALTY DETERMINATION PROCESS IDENTIFIED BY A SIGN THAT CONTAINS THE NAME OF THE FACILITY OPERATOR, THE SIZE OF THE TANK, AND THE TANK NUMBER?

Authority: 1205(a)(2)

Enforcement Action: W

INSPECTION PROCEDURE:

Verify by on-site inspection that each storage tank used in the royalty determination process is identified by a sign that contains the name of the facility operator, the size of the tank, and the tank number.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if each tank used in royalty determination is not identified with the appropriate information.

M-309

IS THERE NO BYPASS OF MMS-APPROVED LIQUID HYDROCARBON ROYALTY METERS AND TANKS?

Authority: 1205(a)(3)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by on-site inspection and review of appropriate records that no bypass of MMS-approved royalty meters and royalty tanks exists. If bypass exists, it must be sealed and recorded.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if:

1. An approved bypass is not sealed properly and recorded.
2. A seal has been broken and records do not address reason or justification.

Issue a component shut-in (C) INC if:

1. An unapproved bypass exists on an MMS-approved royalty meter.
 2. A sales tank is not sealed and recorded.
 3. A seal is broken without authorization.
-

M-310

ARE THE BYPASS VALVES OF GAS ROYALTY AND ALLOCATION METERS SEALED IN A MANNER THAT TAMPERING CANNOT OCCUR WITHOUT DESTROYING THE SEAL?

Authority: 1205(b)(2)

Enforcement Action: W/C

INSPECTION PROCEDURE:

Verify by visual inspection that bypass valves are sealed in a manner that tampering cannot occur without destroying the seal.

IF NONCOMPLIANCE EXISTS:

Issue a warning (W) INC if bypass is not sealed properly and recorded.

Issue a component shut-in (C) INC if:

1. Bypass valves are not sealed.
 2. Seal is broken and justification not recorded.
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