

# Oil and Gas Onshore Orders

— A Public Forum



*Measurement Accuracy and Production  
Accountability on Federal and Tribal Lands*

# Agenda

- Onshore Order 3 – Site Security...  
Questions and comments
- <Break>
- Onshore Order 4 – Oil Measurement  
Questions and comments
- Onshore Order 5 – Gas Measurement  
Questions and comments
- Draft Proposed Changes to all three Orders
- Questions and Comments on all topics

# **Proposed Revisions to Onshore Order 3**

**Site Security**

**Facility Measurement Points**

**Commingling**

**Off-lease measurement**

# Subjects Covered

Existing	Proposed Revisions
Seals – tanks and LACTs	Seals – tanks and LACTs
Run tickets (sales)	Run tickets (sales)
	Record of all access
By-passes prohibited	By-passes prohibited
Theft or mishandling	Theft or mishandling
Self inspection	
Site security plan	
Site facility diagram	Site facility diagram (added)
Federal seals	Federal seals
	Facility Msmt. Points (FMP)*
	Commingling*
	Off-lease measurement

# Facility Measurement Points

## Existing

- No consistent tracking of royalty meters or measurement facilities
- Measurement standards (Orders 4, 5) apply to “sales and allocation” facilities

# Facility Measurement Points

## Proposed Revisions

- All measurement facilities used for royalty would require Facility Measurement Point (FMP) approval and would be assigned an FMP number
- Measurement standards (Orders 4, 5) would only apply to FMPs

# Facility Measurement Point (FMP)

- New facilities would require FMP number prior to sales
- Existing facilities within 18 months
- FMP number would be shown on all measurement equipment
- All documentation (including OGORs) would require FMP number

# Commingling

“...commingling with production from other sources prior to measurement may be approved...” 43 CFR 3162.7-2&3

## Source:

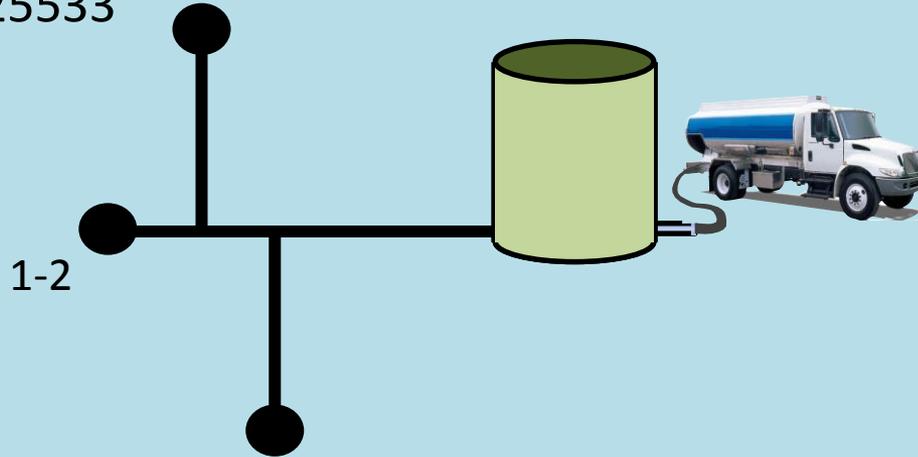
- Federal or Indian lease
- Federal or Indian CA
- Federal or Indian unit PA
- State or fee lease

Applies to both surface and downhole

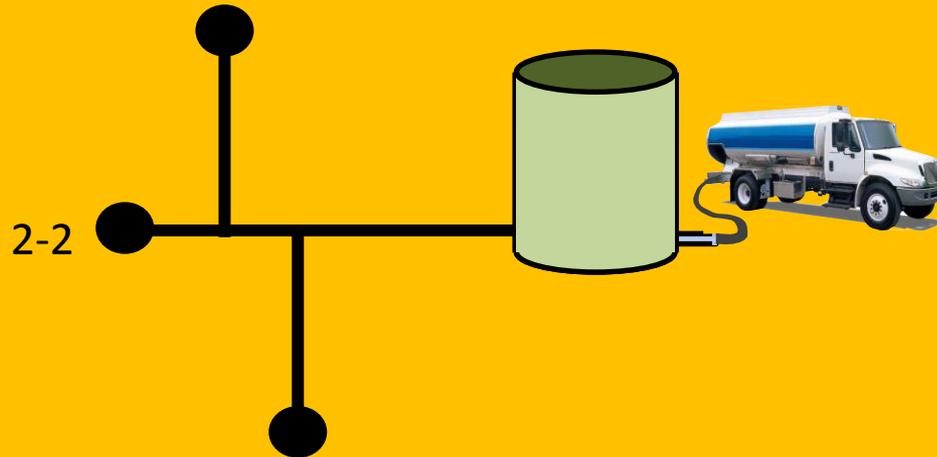
# Commingling – Existing

- “Commingling with production from other sources may be approved...” (43 CFR 3162.7-2(oil) -3 (gas))
- IM 2011-184 provides guidance to Field Offices on how to review applications

NMN-25533



- Verifiability
- Accuracy:  $\pm 1\%$



Fee Lease

NMN-25533

±20%

Oil rate: 50 bpd

$$V_{\text{royalty}} = V_{\text{measured}} \times F_{\text{allocation}}$$

2-2

±1%

Oil rate: 50

±20%

Fee Lease

- ~~Verifiability~~
- Accuracy: ?



# Commingling – Proposed Revisions

## Commingling only allowed if:

- No royalty impacts
  - 100% Federal or 100% Indian (same tribe)
  - Same royalty rate
  - Same royalty revenue distribution
- Economics (low-volume)
- Overriding considerations
  - Environmental considerations
  - Maximum ultimate recovery

**Questions/Comments on  
Proposed Revisions to Order 3?**

**Proposed Revisions to  
Onshore Order 4  
Oil Measurement**

# Subjects Covered

Existing	Proposed Revisions
Industry standards (old)	Industry standards (new)
	Uncertainty standards*
Tank gauging	Tank gauging
Sampling – S&W	Sampling – S&W
LACT components	LACT components
	Coriolis Meas. System*
LACT proving	Meter proving
	Measurement tickets
Alternate methods	Alternate methods

# Overall Uncertainty

## Existing Order 4

- No explicit uncertainty limits
- Standards apply to all sales and allocation meters, regardless of production rate

## Proposed Revisions to Order 4

- $> 10,000$  bbl/month:  $\pm 0.35\%$
- $\leq 10,000$  bbl/month:  $\pm 1.0\%$

# Proposed Coriolis Requirements

- **Specification on request**
  - **Reference accuracy (volume and density)**
  - **Temperature and pressure effects**
  - **Zero stability**
  - **Meter run requirements**
  - **Pressure and temperature limits**
  - **Pressure drop**
- **Non-resettable totalizer for registered volume (bbls at metered conditions)**
- **Zero check**

# Questions/Comments on Proposed Revisions to Order 4?

**Proposed Revisions to  
Onshore Order 5  
Gas Measurement**

# Subjects Covered

Existing	Proposed Revisions
Industry standards (old)	Industry standards (new)
Orifice plate and charts	List of approved equipment*
Low-flow exemptions	4 tiers based on flow rate
	Meter tube inspections
Chart recorders	Charts $\leq$ 100 Mcf/day
	Integration statements
	Gauge line standards
Btu once per year	Gas sampling frequency*
	Gas sampling methods*
	Transducer testing protocol*
	Flow computer testing prot.*
AGA 3 (1985) calcs	Calculations

# Subjects Covered - EGM

Existing (NTLs)	Proposed Revisions
API 21.1, API 14.2 (old)	API 21.1, API 14.2 (new)
Displayed data	Displayed data
On-site data	On-site data
LFCO = 0.5"	LFCO = 0.5"
Verification	Verification (initial and rtn.)
Gas expansion (B&B)	Gas expansion (API 14.3.1)
Atmos. pressure	Atmos. Pressure (no cntrct)
IV not required	IV required

# Proposed List of Approved Equipment

- Flange-tapped orifice plates
- Chart recorders ( $\leq 100$  Mcf/day)
- Gas chromatographs
- Specific type-tested equipment:
  - Transducers (make, model, URL)
  - Flow computer software (version)
  - Flow conditioners (make, model, size)
  - Primary devices (make, model, size)
- Type testing per Order 5 or industry standard
- Approved equipment listed on BLM website, with restrictions, if needed

## Gas sampling frequency - Existing

- Once per year

## Gas sampling frequency – Proposed Revisions

- For FMPs  $\leq 100$  Mcf/day:  
Once per year
- For FMPs  $> 100$  Mcf/day:  
“dynamic sampling frequency”

# Subcommittee on Royalty Management (2007)

“MMS and BLM should develop a procedure to determine the potential BTU variability of produced natural gas on a by-reservoir or by-lease basis, and estimate the implications for royalty payments”

“MMS and BLM should adjust BTU frequency requirements for sampling and reporting on a case by-case basis, or consider other regulatory Requirements”

# Dynamic Sampling Frequency

- Sampling due dates would be calculated for each FMP based on historic variability of heating value
- Would require software to implement
- All gas analyses submitted to BLM electronically
- Next sample due date would be calculated and sent to the operator
- Composite sampling or on-line GC would eliminate sampling frequency requirement

# Advantages

- Would achieve a consistent level of uncertainty
- Changes in variability would result in changes to sampling frequency
- Relative density uncertainty would be used in the calculation of flow rate uncertainty (Uncertainty Calculator)
- Would provide economic incentive for good sampling and analysis

## EGM equipment - Existing

- No requirements

## EGM equipment— Proposed Revisions

- Transducer testing requirements (API 22.4)
- Flow computer testing requirements (API 22.5)
- Test reports reviewed by BLM; approved equipment posted to BLM website

**Questions/Comments on  
Proposed Revisions to  
Onshore Order 5?**

# **Proposed Revisions Common to All Three Orders**

# Common Proposed Revisions

## Existing Orders

- Enforcement actions (major/minor, corrective action, timeframes) included with each provision

9. Meter tubes using flange taps or pipe taps shall have the pressure tap holes located as specified in AGA Committee Report No. 3.

Violation: Major.

Corrective Action: Install pressure tap as specified.

Abatement Period: Prior to sales.

## Proposed Revisions to the Orders

- Enforcement actions would be placed in a new enforcement handbook

# Common Proposed Revisions

## Existing Orders - Recordkeeping

- Six year initial retention period for records for both Federal and Indian

## Proposed Revisions to the Orders

- Seven year initial retention period for records for Federal (30 USC 1724(f) RSFA )
- Six year initial retention period for records for Indian (30 USC 1713(b) FOGRMA)

# Common Draft Proposed Revisions

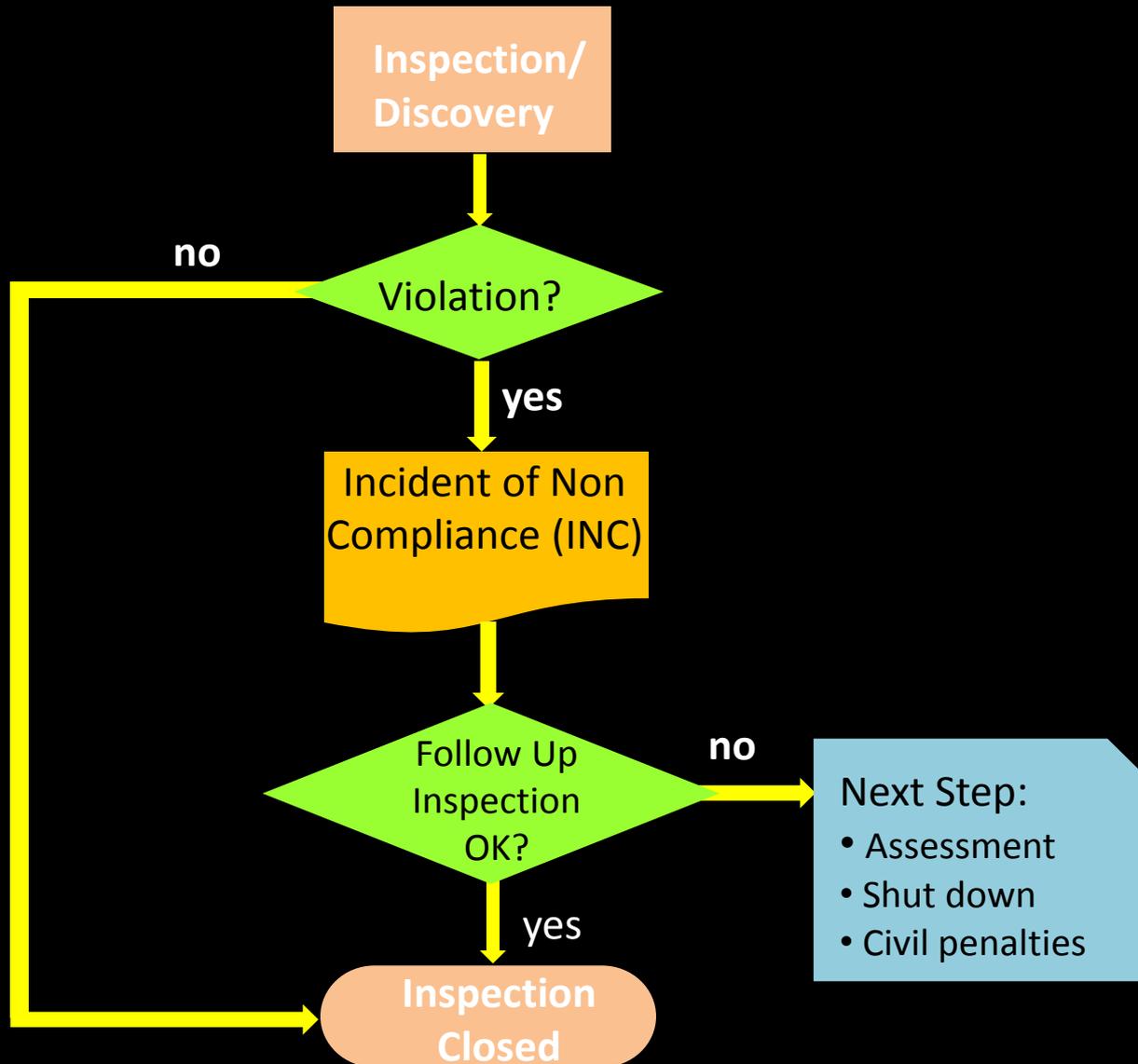
## Existing Orders – Applies to Operators Only

- Orders only apply to operators

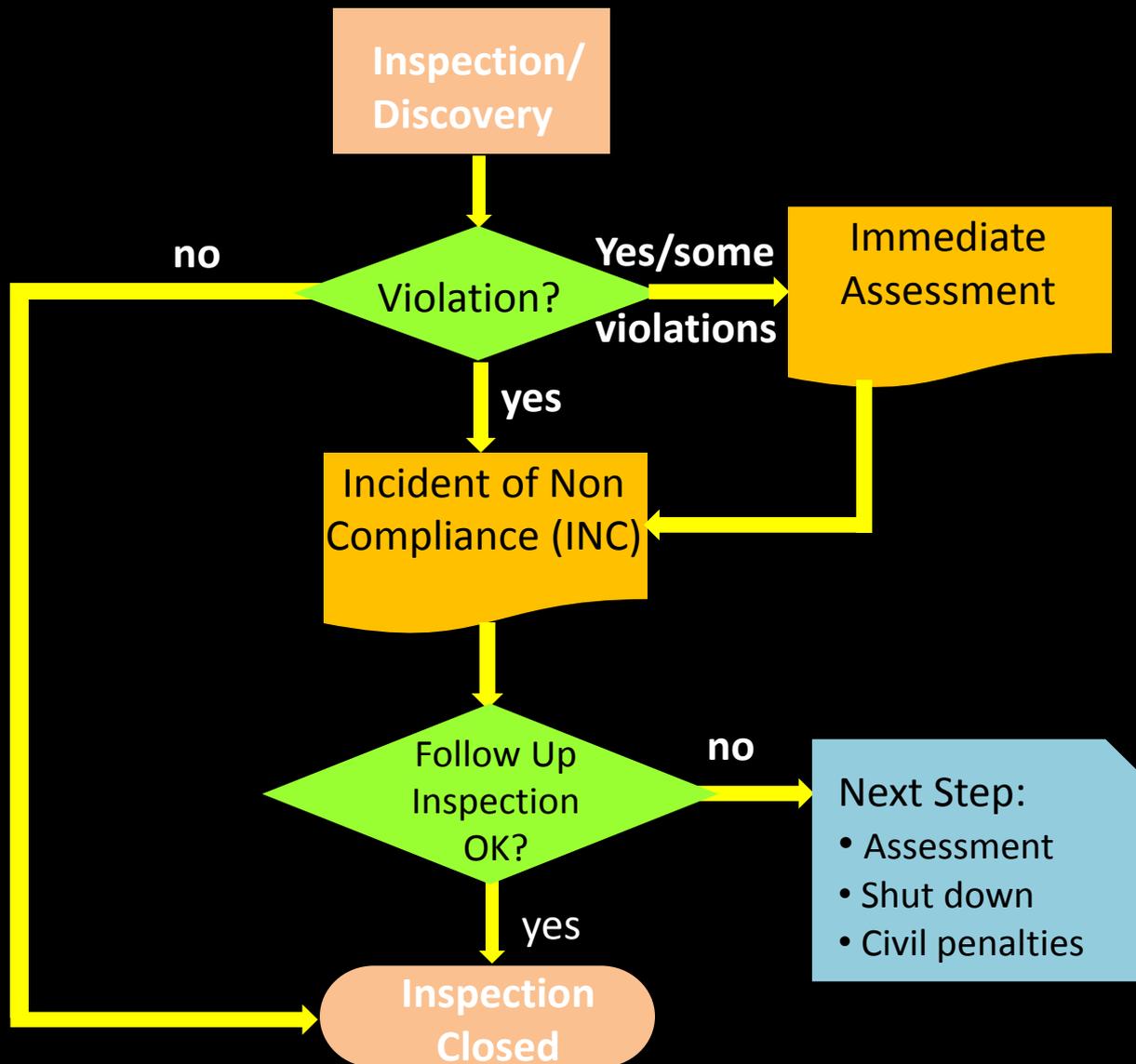
## Proposed Revision to the Orders – includes transporters and purchasers

- Requirements regarding retention of records would apply to purchasers and transporters through point of first sale (30 USC 1713(a))

# Existing Enforcement Procedure



# Proposed Revision to Enforcement Procedure



# Common Draft Proposed Revisions

## Proposed Revision to all Orders

- Immediate assessments would be added to each Order for selected violations
- \$1000 per incident
- Maximum of \$5000 per lease, CA, unit, per inspection

**Questions/Comments on any  
of the Proposed Revisions?**

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