

Revisions to the ARB GHG Mandatory Reporting Regulation

Subarticle 5 – Petroleum and Natural Gas
Systems

Webinar - June 22, 2012

Slides Available Here:

<http://www.arb.ca.gov/cc/reporting/ghg-rep/ghg-rep.htm>

Webinar Agenda

- Regulation revision process
- Overview of proposed changes
- BMM
- Well pad interpretation
- Draft test procedure
- Allocation-related data reporting
- Specific changes to U.S.EPA reporting requirements
- Next steps

2012 Regulatory Update to the MRR

Pre-Rulemaking Milestones

- May 29: Potential Changes to MRR Text posted for all sectors
- May 30: Workshop on General Overview of Proposed Changes to MRR for all sectors
- June 15: Discussion Draft on Potential Changes to Subarticle 5
- June 22: Technical Webinar for Petroleum and Natural Gas Systems Reporters on Potential Changes (today)
- June 29:
 - Second Technical Webinar for Petroleum and Natural Gas Systems Reporters – Go Over Informal Comments to Potential Changes
 - Informal Comments due on the Discussion Draft

2012 Regulatory Update to the MRR

Rulemaking Milestones

- June 25 – July 6: Informal Discussion with Stakeholders
- Aug 6: Release ISOR Staff Report for 45-day comment period
- Aug –Sept: Regulatory public review and comment period
- Sept 20-21: Board Hearing

Overview - Objectives of the Subarticle 5 Revision Process

- Maintain alignment with U.S.EPA's Subpart W.
- Provide accurate and complete accounting of the GHG emissions resulting from Oil and Gas Production, Processing, Transmission, Storage, Import/Export and Distribution Systems.
- Support a robust Cap and Trade Program as required by AB32.
- Support the statewide greenhouse inventory program and other greenhouse gas-related processes

Best Available Monitoring Methods (BAMM)

- Best available monitoring methods (BAMM) can be used for some calculation methods in subarticle 5.
- ARB allowed use of BAMM for 2011 data reported in 2012.
- ARB may consider the use of BAMM for 2012 data.
- Beginning in 2013, ARB is proposing to not extend the BAMM provisions.

The “associated with a well pad” issue

- In their December 23, 2011 Final Rule U.S.EPA changed language dealing with the reporting footprint of an “onshore petroleum and natural gas production facility”.
- The language “associated with a well pad” was changed to read “associated with single well pad” in the December 23, 2011 Final Rule.
- ARB has determined that this change would result in the reporting of fewer emissions by onshore production facilities.
- At this time, ARB is not planning to incorporate the “single well pad” language as it would result in less complete and less accurate emissions accounting.

Produced Water Modifications

- The current version of MRR includes a produced water method.
- ARB staff is considering a new test procedure for calculating produced water emissions.
- The proposed test procedure establishes a robust method for calculating the emissions from produced water and replaces the current methodologies.

Crude Oil, Condensate, Produced Water Test Procedure: Overview

- Developed in support of potential GHG regulation for oil and natural gas production, processing, and storage.
- Sampling and analysis methodology to estimate location-specific methane, CO₂, and VOC emissions released from crude oil, condensate, and produced water.
- Estimates emissions from a complete separator and storage tank system rather than from a single vessel.

Crude Oil, Condensate, Produced Water Test Procedure Revisions

- Revised definitions.
- Revised API Gravity ranges in order to align with E&P Tank software capabilities.
- Expanded calculation methodologies.
- Added a new vapor recovery system measurement methodology:
 - Requires metering annual gas volume and conducting a gas composition analysis.
 - Calculates emission rates without gathering or analyzing liquid samples.

Onshore Production Storage Tanks

- ARB staff is considering applying the Test Procedure for calculating emissions from onshore production storage tanks (section 95153(h)).
- This modification would remove the current calculation methodologies from section 95153(h) and replace them with the Test Procedure.

Additional Allocation-Related Data

- Added data disaggregation reporting requirements for onshore petroleum and natural gas production facilities with:
 - Cogeneration sources
 - Steam generator sources
 - Electricity generating sources
- Added additional reporting requirements for:
 - Associated gas
 - Dry gas
- Verification for the disaggregated emissions collected in section 95156 will be done according to best available methods.

Industry Segment Reporting Requirements

Emission Source Type	2012 Reporters	Additional reporters 2013
Metered natural gas pneumatic device and pneumatic pump venting	2,4,5	Method may be deleted if and when EPA requires removal of these devices
Non-metered natural gas pneumatic device venting	2	Method may be deleted if and when EPA requires removal of these devices
Acid gas removal vents	2,3	
Dehydrator vents	2,3	
Well venting for liquids unloading	2	
Gas well venting during completions and workovers	2	
Equipment and pipeline blowdowns	3,4,7	2,5,6,8
Onshore production storage tanks	2	(may be removed for 2)
Transmission storage tanks	4	2 -95153(h) requires use of this method for stuck scrubber dump valves on well-pads.
Well testing venting and flaring	2	
Associated gas venting and flaring	2	
Flare stack or other destruction device emissions	2,3	4,5,6,7,8
Centrifugal compressor venting	2,3,4,5,6,7	
Reciprocating compressor venting	2,3,4,5,6,7	
Leak detection and leaker emission factors	3, 4, 5, 6, 7, 8	2
Population count and emission factors	2-5, 6, 7, 8	(no longer required for 2)
Offshore Petroleum and Natural Gas production	1	
EOR injection pump blowdown	2	
Hydrocarbon liquids dissolved CO ₂ and CH ₄	-	2
Produced water dissolved CH ₄ and CO ₂	2	
Third party line hits and uncontrolled pipeline blowdowns	-	8

Industry segment Key

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|--|---|
| 1. Offshore Petroleum and Natural Gas Production | 2. Onshore Petroleum & Natural Gas Production |
| 3. Natural Gas Processing Plants | 4. Natural Gas Transmission Compression |
| 5. Natural Gas Underground Storage. | 6. LNG Storage |
| 7. LNG Import and Export | 8. Natural Gas Distribution |

This document may be found at the following link:

http://www.arb.ca.gov/cc/reporting/ghg-rep/revision_2012/revision_2012.htm

Summary of Subarticle 5 Proposed Changes

Comparison of Subarticle 5 MRR reporting requirements			
Issue/Source	U.S.EPA	ARB	Reason for Change
Onshore production reporting footprint	Report emissions "associated with a single well pad."	Report emissions "associated with a well pad."	More complete and accurate emissions data generation.
Pneumatic device venting	U.S.EPA allow use of default EFs.	ARB requires metering by 2015.	Metered emissions are C&T quality.
Acid Gas Removal vents	U.S.EPA allows use of four methods.	ARB limits the choice to three methods.	Ensure C&T quality data.
Dehydrator vents	U.S.EPA allows use of EF based method for smaller dehy's.	ARB requires all dehy's to use more accurate U.S.EPA method and modifies one equation.	More consistent C&T quality data.
Well venting for liquids unloading	U.S.EPA applies results of one measurement for each unique well tubing diameter and pressure group to all similar wells.	ARB requires measurement for all well unloading event.	More complete and accurate C&T quality emissions data generation.
Gas well venting during well completions and workovers.	U.S.EPA requires emission measurements for only a small fraction of well completions and workovers.	ARB requires emissions measurement for all completions and workovers.	More complete and accurate C&T quality emissions data generation.
Blowdown vent stacks	U.S.EPA limits method to: NG processing, NG trans/comp, and LNG import/ex	ARB requires all industry segments to report these emissions.	More complete and accurate C&T quality emissions data generation.
Onshore Production storage tanks	U.S.EPA allows use of five calculation methodologies.	ARB restricts use to two U.S.EPA methods.	More complete and accurate C&T quality emissions data generation.
Centrifugal compressor venting	U.S.EPA allows use of EF based method for onshore production compressors.	ARB requires measurement of emissions for onshore production	More complete and accurate C&T quality emissions data generation.

- A summary of the changes to subarticle 5 is available at: http://www.arb.ca.gov/cc/reporting/ghg-rep/revision_2012/revision_2012.htm

Next Steps

- June 29th Webinar: 10am – noon
 - <https://www1.gotomeeting.com/register/652155256>
- If you have any questions, please contact us directly (contact information on next slide)
- Please submit comments to ghgreport@arb.ca.gov

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Subject Matter

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