

## **WSPA Comments General Rule Implementation and Applicability**

### **Issue 1**

#### **Informal Comment Period Timeline**

The current deadline for informal comments is May 15<sup>th</sup>. The proposed regulation addresses seven source categories and will have significant unintended impacts on the oil and gas industry if issues presented by the draft regulation are not addressed appropriately in terms of cost effectiveness and technical feasibility.

#### **Recommendation 1**

At a minimum, WSPA recommends that ARB extend the informal comment period to May 30<sup>th</sup> to allow commenters the opportunity to provide more comprehensive and detailed comments on the proposed regulation. In that regard, WSPA will submit additional comments after May 15<sup>th</sup>.

### **Issue 2**

#### **Regulation Implementation Dates**

Section 95213 (Standards) of the proposed regulation lists the following implementation dates:

**[ARB staff currently intend that reporting and record-keeping provisions of the regulation, including requirements for flash testing, will be effective in January 1, 2017. Leak detection and repair and the reciprocating compressor strategies as well as control requirements for new sources will also be effective January 1, 2017. Provisions requiring retrofits of existing sources will be effective January 1, 2018, to provide time for covered entities to come into compliance.]**

The schedule as listed is unclear. Our understanding of the intended implementation dates is shown in the table provided below.

#### **Recommendation 2**

WSPA recommends that ARB clarify the schedule for various source categories (both new and existing). Clarification should include explicit expectations of what is required and when it is required.

Section	Requirement	Begin Date (Existing Equipment)	Begin Date (New Equipment)	Comments
95213(a) - Primary and Secondary Vessels	Flash Testing	1/1/2017	1/1/2017	Annual testing to begin 1/1/17, first year to be completed by 12/31/17
	Control Requirements	1/1/2018	1/1/2017	If required, control devices for existing equipment to be in place by 1/1/2018
	Reporting	1/1/2017	1/1/2017	Data required for the report needs to be collected starting 1/1/2017
	Recordkeeping	1/1/2017	1/1/2017	Recordkeeping begins 1/1/2017
95213(b) - Circulation Tanks for Well Stimulation	Control requirements	1/1/2018	1/1/2018	Control devices for existing equipment to be in place by 1/1/2018
95213(d) - Reciprocating Natural Gas Compressors at or Below 500 Rated Horsepower	Optional Control Requirements	1/1/2018	1/1/2017	Optional control devices for existing equipment to be in place by 1/1/2018
	Leak Inspections	1/1/2017	1/1/2017	Quarterly inspections to begin 1/1/17, first quarter to be completed by 3/31/17
	Recordkeeping	1/1/2017	1/1/2017	Recordkeeping begins 1/1/2017
95213(e) - Reciprocating Natural Gas Compressors over 500 Rated Horsepower	Optional Control Requirements	1/1/2018	1/1/2017	Optional control devices for existing equipment to be in place by 1/1/2018
	Annual testing	1/1/2017	1/1/2017	Annual testing to begin 1/1/17, first year to be completed by 12/31/17
	Recordkeeping	1/1/2017	1/1/2017	Recordkeeping begins 1/1/2017
95213(f) - Centrifugal Compressors	Control Requirements	1/1/2018	1/1/2017	Control devices for existing equipment to be in place by 1/1/2018
95213(g) - Pneumatic Devices and Pumps	Control Requirements	1/1/2018	1/1/2017	If required, control devices for existing equipment to be in place by 1/1/2018
	Recordkeeping	1/1/2017	1/1/2017	Recordkeeping begins 1/1/2017
95213(h) - Liquids Unloading of Natural Gas Production Wells	Optional Control Requirements	1/1/2018	1/1/2017	Optional control devices for existing equipment to be in place by 1/1/2018
	Measurement	1/1/2017	1/1/2017	Event flow measurements to begin 1/1/17
	Reporting	1/1/2017	1/1/2017	Data required for the annual report needs to be collected starting 1/1/2017
	Recordkeeping	1/1/2017	1/1/2017	Recordkeeping begins 1/1/2017
95213(i) - Leak Detection and Repair	Leak Inspection	1/1/2017	1/1/2017	Inspections to begin 1/1/17
	Reporting	1/1/2017	1/1/2017	Data required for the annual report needs to be collected starting 1/1/2017
	Recordkeeping	1/1/2017	1/1/2017	Recordkeeping begins 1/1/2017

### **Issue 3 (under continued consideration)**

#### **Definitions**

Section 95212(a) of the proposed regulation includes definitions for numerous terms used in the regulation. The definitions of several of the terms are very vague and could lead to multiple interpretations and confusion. A main reason for confusion is that several of the terms have overlapping definitions in the CA Greenhouse Gas Mandatory Reporting Regulation (GHG MRR) and the AB 32 Cap & Trade Program, USEPA Greenhouse Gas Reporting Program (GHGRP), CA Senate Bill 4, NSPS Subpart OOOO, and Colorado GHG Rule. WSPA expects to provide more comments on this issue and specific definitions of concerns after May 15.

### **Recommendation 3**

WSPA recommends that, to the extent possible, ARB align the terms used in the draft regulation with existing definitions within the existing regulations particularly with the above mentioned regulations. We understand that there might be some differences for certain terms that ARB may have to treat differently in this regulation. Therefore, WSPA recommends that ARB clearly identify those differences and the reasons for them to ensure that operators can understand how the differences affect compliance requirements.

### **Issue 4 (under continued consideration)**

#### **Circulation Tanks for Well Stimulation Treatments**

Section 95213(b) of the proposed regulation outlines the proposed control requirements for circulation tanks used for well stimulation treatments. WSPA is concerned that no control technology has been proven or demonstrated as capable of achieving the proposed required controls for this application in California. Additionally, the requirements defined in Section 95213(c)(1), (2) or (3) are neither cost effective nor technically feasible without raising operational and safety issues. WSPA expects to provide additional comments on this issue after May 15.

### **Issue 5 (under continued consideration)**

#### **Standardized Regulatory Impact Assessment (SRIA)**

WSPA understands that the data used by ARB in their regulatory development process can be found in the Standardized Regulatory Impact Assessment (SRIA). WSPA will provide additional comments regarding the SRIA and the information provided within after May 15.

## **WSPA Comments Storage Tanks**

### **Issue 1**

#### **Applicability and Scope**

Section 95213(a) of the proposed regulation requires that operators either install a vapor recovery system for systems >10 MT CH<sub>4</sub>/yr or conduct annual flash liberation testing to demonstrate that the system is under this threshold. WSPA is concerned with the applicability of this measure.

The applicability of this section's requirements is unclear. There are multiple interpretations of the scope and confusion about which vessels/tanks are considered primary and which are considered secondary vessels. The definitions of the terms "primary" and "secondary" vessels contribute to the confusion.

WSPA will be providing additional comments and recommendations after May 15.

### **Issue 2**

#### **Flash Liberation Testing – Technical Feasibility**

The proposed regulation requires operators with uncontrolled primary and secondary vessels with emissions greater than 10 MT CH<sub>4</sub> per year to conduct annual flash liberation testing. Flash Liberation Testing involves collection of a pressurized liquid sample, simulation of flashing in the lab, and measurement of the gas to oil ratio (GOR) or gas to water ratio (GWR) and a gas analysis to determine the gas quality.

WSPA is concerned about the feasibility of conducting this test for wells that may not have sufficient condensate/liquid to properly conduct a flash liberation test.

### **Recommendation 2**

WSPA recommends that ARB allow alternative methods such as engineering estimates to determine production GOR/GWR for low liquid producing wells where the flash liberation tests may not be technically feasible.

### **Issue 3**

#### **Flash Liberation Testing – Use outside of CA**

This testing protocol was developed by ARB staff based on Gas Processing Association (GPA) Methods in conjunction with the CA GHG MRR (under the AB32 program) and has subsequently been modified for this proposed regulation. No other state currently requires this test for the purpose of emissions estimation. However, other stakeholders have asserted that ARB should increase the frequency of the flash liberation testing requirement to quarterly, purportedly based on requirements in place in other states.

WSPA is concerned that other parties are confusing the flash liberation test with the existing quarterly tank inspection requirements of local air districts and other states (such as Colorado).

While stringent tank inspection requirements are clearly prescribed in local air district regulations in CA (such as [Rule 4623 of SJVAPCD](#)) and have been in place for decades, flash liberation testing is an additional and relatively new requirement currently used only in CA for GHG MRR compliance.

### **Recommendation 3**

WSPA recommends that ARB clarify that the annual CA-only flash testing method pertains only to this regulation and is not a replacement *for* but is *in addition to* the existing stringent tank inspection requirements. WSPA further recommends that flash liberation testing be conducted no more than once per year, as the existing, effective quarterly tank inspection requirements of the local air districts will remain in place.

### **Issue 4**

#### **Flash Liberation Testing – Effect of Frequency on Emissions (and Emissions Control)**

Section 95213(a)(1)(C)(2) requires flash analysis testing and reporting be conducted at any time the annual crude oil or natural gas throughput of the primary and secondary vessels increases by more than ten (10) percent since the most recent flash analysis testing and reporting.

WSPA is concerned that this may result in unnecessary testing, since GOR/GWR does not change with the amount of production. Therefore, testing would be based on an indicator that is not inherently linked to the data.

GOR or GWR (scf of gas per barrel of oil or barrel of water) of a production stream is ultimately a characteristic of the production reservoir. GOR and GWR characteristics can differ from reservoir to reservoir and can change within a reservoir over long periods of time (often decades) if there are changes in key reservoir characteristics. Normally, production from the same zone of a reservoir will have the same GOR or GWR year after year. Therefore, increased frequency of flash liberation testing will not have any significant impact on the emissions from primary or secondary vessels and serve only to increase the number of tests conducted.

Emissions (and therefore, control of emissions) are dependent solely on production volume (system throughput) and methane concentration. Operators can utilize existing GOR/GWR data coupled with annual production data to estimate annual emissions.

### **Recommendation 4**

WSPA recommends that ARB not require re-testing due to changes in the throughput. Instead, WSPA suggests that ARB require operators to demonstrate that annual emissions meet the compliance requirements of this section.

### **Issue 5**

#### **Flash Testing Protocol**

ARB is proposing that operators use the flash test protocol in the proposed regulation for annual flash liberation testing. Although this test is similar to the protocol contained in the CA GHG MRR, there are several minor differences which require an operator to conduct two separate tests annually in order to comply with the two regulations of the same AB32 program. The parameters measured by the two tests are exactly the same but require different methods.

WSPA believes that the two tests can be aligned such that there is increased efficiency of compliance.

**Recommendation 5**

WSPA recommends that ARB consult with their CA GHG MRR group in an effort to align the flash test protocols (whichever is better) in order to eliminate redundant testing and increase efficiency.

## **WSPA Comments Reciprocating Compressors**

### **Issue 1**

#### **Applicability**

As specified in Sections 95213(d) and (e), ARB is proposing to require that operators either install a vapor recovery system on the rod packing seal vents and route the collected gas to an existing sales gas system, fuel gas system, or vapor control device; or conduct vent leak measurements. WSPA is concerned that both the intent and applicability of the proposed regulation are unclear.

Our understanding from the workshops held on April 27<sup>th</sup> and 29<sup>th</sup> in Sacramento and Bakersfield, respectively, is that ARB's intent is to limit the applicability of the regulation to natural gas compressors located on transmission pipelines. ARB also stated that it is not their intention to include compressors under vacuum or that have negative pressure (such as vapor recovery compressors) within the scope of this proposed regulation. However, Section 95213(d) of the proposed regulation does not clearly describe ARB's intended applicability scope.

#### **Recommendation 1**

WSPA recommends that ARB clarify the applicability by updating Section 95212(a)(24) to include the industry-standard definition of "transmission pipelines" from USEPA GHGRP (40 CFR 98.238 - [Electronic Code of Federal Regulations](#)) as follows:

*"Natural gas transmission compressor station" means all equipment and components associated with moving natural gas from production fields or natural gas processing plants through natural gas transmission pipelines. **Transmission pipeline means a Federal Energy Regulatory Commission rate-regulated Interstate pipeline, a state rate-regulated Intrastate pipeline, or a pipeline that falls under the "Hinshaw Exemption" as referenced in section 1(c) of the Natural Gas Act, 15 U.S.C. 717-717 (w)(1994).***

### **Issue 2**

#### **Requirements**

WSPA is concerned that certain requirements of the regulation are not feasible from a process standpoint.

##### **a. LDAR for Compressors**

Our understanding is that the requirements for reciprocating compressors at or below 500 HP are intended to align with the proposed requirements of Leak Detection and Repair (LDAR) under 95213(i). A summary of the proposed requirements for both is provided in the following table.

Source	Threshold	Repair Time	Extension Allowed Upon Request
< or = 500 HP Reciprocating Compressors 95213(d)	> 1000 PPM < 10,000 PPM	7 days	7 days
	> 10,000 PPM	3 days	2 days
	> 50,000 PPM	2 days	None
LDAR 95213(i)	> 1000 PPM < 10,000 PPM	7 days	7 days
	> 10,000 PPM	3 days	2 days
	> 50,000 PPM	2 days	None

The proposed regulation is unclear and can cause operators to interpret the requirements as two separate programs – one for LDAR and one for reciprocating compressors at or below 500 HP.

b. Manifoldd vents

In certain cases, all rod packing vents on one or more compressors might be manifolded into a common vent. It is unclear from the regulation, if ARB wants operators to identify an access port and conduct measurement at each individual compressor vent or if one measurement at the common vent for manifolded compressors would be sufficient. USEPA has proposed modifications to the Greenhouse Gas Reporting Program (GHGRP) to include provisions for measuring the common vent where the one or more compressors are manifolded into one. An excerpt of the proposed modification [\(40 CFR 98.233\(p\)\(8\)\)](#) is below:

*(8) Method for calculating volumetric GHG emissions from as found measurements of manifolded groups of reciprocating compressor sources. For manifolded groups of compressor sources measured according to paragraph (p)(1) (iii) of this section, you must calculate annual GHG emissions using Equation W-29B of this section. If the reciprocating compressors included in the manifolded group of compressor sources share the manifold with centrifugal compressors, you must follow the procedures in either this paragraph (p)(8) or paragraph (o)(8) of this section to calculate emissions from the manifolded group of compressor sources.*

c. Critical Equipment

In addition, WSPA is concerned that provisions have not been included for critical compressors that would be required to be shut down to conduct repairs, thus affecting operations. Also, repair and replacement of rod-packing may be subject to vendor delays, which are outside of the operator’s control.

**Recommendation 2**

WSPA recommends that ARB clarify requirements and allow provisions for critical components and delays outside of the operator’s control. WSPA recommends the following:

*(d) Reciprocating Natural Gas Compressors at or Below 500 Rated Horsepower **located at Natural gas transmission compressor stations***

*The requirements of this section do not apply to compressors under vacuum or negative pressure (including vapor recovery compressors).*

- (1) Each compressor *or compressor manifold* shall collect the rod packing or seal vent gas with a vapor collection system and route the collected gas to an existing sales gas system, fuel gas system, or vapor control device; or,
- (2) Each compressor *or compressor manifold* shall provide a clearly identified access port for making rod packing or seal vent emission measurements; and,
- (3) *Each compressor or compressor manifold rod packing or seal vent must be inspected and repaired according to the requirements of Section (i). Operators may request extension of repair durations from ARB or the local air districts in situations that may cause delays in repair and are beyond operator control.*
- (4) *Operators with critical compressors found above the measured emissions flow rates specified in Section (d)(3) and that are technically infeasible to repair without a process unit shutdown, shall be repaired to minimize leakage to the maximum extent possible and the repair of such components shall be completed by the end of the next process shutdown or within 12 months from the date of measurement, whichever is sooner.*

*Compressor rod packing or seal vents shall be measured quarterly for total hydrocarbon concentration in units of parts per million volume (ppmv) calibrated as methane in accordance with EPA Reference Method 21 (40 CFR 60, Appendix A); and,*

*(4) Compressor rod packing or seal vents with a measured total hydrocarbon concentration above the following standards shall be repaired within the time period specified unless a more stringent leak concentration or more stringent repair time period is required by the local air district:*

*(A) Rod packing or seal vents with a measured total hydrocarbon concentration above 1,000 ppmv but below 10,000 ppmv shall be successfully repaired or the unit removed from service within seven (7) calendar days. A time extension not to exceed seven (7) calendar days may be granted by ARB or the local air district.*

*(B) Rod packing or seal vents with a measured total hydrocarbon concentration above 10,000 ppmv shall be successfully repaired or the unit removed from service within three (3) calendar days. A time extension not to exceed two (2) calendar days may be granted by ARB or the local air district.*

*(C) Rod packing or seal vents with a measured total hydrocarbon concentration above 50,000 ppmv shall be successfully repaired or removed from service within two (2) calendar days.*

- (e) *Reciprocating Natural Gas Compressors over 500 Rated Horsepower located at Natural gas transmission compressor stations*

*The requirements of this section do not apply to compressors under vacuum or negative pressure (including vapor recovery compressors).*

- (1) Each compressor *or compressor manifold* shall collect the rod packing or seal vent gas with a vapor collection system and route the collected gas to an existing sales gas system, fuel gas system, or vapor control device; or,
- (2) Each compressor *or compressor manifold* shall provide a clearly identified access port for making individual rod packing or seal emission flow rate measurements; and,
- (3) Each individual compressor *or compressor manifold* rod packing or seal vent shall be measured annually during normal operation to determine the rod packing or seal

*emission flow rate determined by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument); and,*

- (4) An individual rod packing or seal vent with a measured emission flow rate greater than two (2) standard cubic feet per minute or a compressor manifold vent with a measured emission flow rate greater than  $2 \cdot n$  (where  $n$  = number of compressor rod packing or seal vents manifolded together) standard cubic feet per minute shall be successfully repaired or the unit removed from service within 14 calendar days unless a more stringent flow rate or more stringent repair time is required by the local air district. For compressor manifold vents, the operator must determine which individual seal(s) is leaking and repair the leaking seal(s). Operators may request extension of repair durations from ARB or the local air districts in situations that may cause delays in repair and are beyond operator control. A time extension not to exceed 14 calendar days may be granted by ARB or the local air district.*
- (5) Operators with critical compressors found above the measured emissions flow rates specified in Section (e)(4) and that are technically infeasible to repair without a process unit shutdown, shall be repaired to minimize leakage to the maximum extent possible and the repair of such components shall be completed by the end of the next process shutdown or within 12 months from the date of measurement, whichever is sooner.*

## **WSPA Comments Pneumatic Devices**

### **Issue**

Section 95213(g) of the proposed regulation requires that continuous bleed devices be connected to a vapor recovery system or use compressed air. In certain cases, continuous bleed devices may be required as a safety measure or may be necessary remote locations where electricity is not available.

Current regulations allow continuous bleed pneumatic devices in extreme circumstances. For example, 40 CFR Part 60, Subpart OOOO allows their use should it be determined that the device is required based on functional or safety needs of the affected facility. A snapshot of this regulatory language is provided below:

#### **§60.5390 What standards apply to pneumatic controller affected facilities?**

For each pneumatic controller affected facility you must comply with the VOC standards, based on natural gas as a surrogate for VOC, in either paragraph (b)(1) or (c)(1) of this section, as applicable. Pneumatic controllers meeting the conditions in paragraph (a) of this section are exempt from this requirement.

(a) The requirements of paragraph (b)(1) or (c)(1) of this section are not required if you determine that the use of a pneumatic controller affected facility with a bleed rate greater than the applicable standard is required based on functional needs, including but not limited to response time, safety and positive actuation. However, you must tag such pneumatic controller with the month and year of installation, reconstruction or modification, and identification information that allows traceability to the records for that pneumatic controller, as required in §60.5420(c)(4)(ii).

Additionally, the state of Colorado's Methane Regulation (Attachment C; Page 93) allows use of high bleed pneumatic controllers due to safety and/or process purposes. A snapshot of this regulatory language is provided below:

XVIII.C.2.c. All high-bleed pneumatic controllers that must remain in service due to safety and/or process purposes must have Division approval and comply with Sections XVIII.D. and XVIII.E.

XVIII.C.2.c.(i) For high-bleed pneumatic controllers in service prior to May 1, 2014, the owner/operator shall submit justification for high-bleed pneumatic controllers to remain in service due to safety and/or process purposes by March 1, 2015. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.

XVIII.C.2.c.(ii) For high-bleed pneumatic controllers placed in service on or after May 1, 2014, the owner/operator shall submit justification for high-bleed pneumatic controllers to be installed due to safety and/or process purposes prior to installation. The Division shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.

### **Recommendation**

WSPA recommends that ARB allow continuous bleed devices in extreme situations such as safety or remote locations, in alignment with the provisions of the Colorado Methane Rule and 40 CFR Part 60, Subpart OOOO.

WSPA recommends the following language changes:

*(g) Pneumatic Devices and Pumps*

*(1) Pneumatic devices that are designed to continuously vent natural gas during normal operation shall not vent natural gas to the atmosphere. Alternatively, they must meet one of the following requirements:*

*(A) Collect the vented natural gas with a vapor collection system and route the collected gas to an existing sales gas system, fuel gas system, or vapor control device; or,*

*(B) Use compressed air to operate.*

*(C) For continuous bleed devices in service as of January 1, 2017, the owner/operator shall submit justification for the devices to be in service due to safety and/or process purposes by June 30, 2017. ARB or the local air district shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.*

*(D) For continuous bleed devices placed in service on or after January 1, 2017, the owner/operator shall submit justification for the devices to be installed due to safety and/or process purposes at least 30-days prior to installation. ARB or the local air district shall be deemed to have approved the justification if it does not object to the owner/operator within 30-days upon receipt.*

## WSPA Comments Liquids Unloading for Gas Wells

### Issue

As outlined in Sections 95213(h) and 95215(a)(2) and (3), ARB is proposing to require that oil and gas operators either: (1) install a vapor recovery system or measure or (2) calculate the vented volume of gas and report annually to ARB. The calculation method is outlined in Appendix B of the proposed regulation.

WSPA is concerned about the redundant reporting requirements for facilities that already report the required data under Greenhouse Gas Mandatory Reporting Regulation (GHG MRR). According to 95153(e) of the MRR, facilities are already required to calculate emissions as shown below. The two calculation methodologies outlined in the MRR are similar to the one outlined by ARB in the proposed regulation.

Per GHG MRR Section 95153(e):

- (1) *Calculation Methodology 1.* Calculate the total emissions for well venting for liquids unloading without plunger lift assist using Equation 6 of this section.

$$E_{S,n} = \sum_{p=1}^W \left[ V_p * \left( (0.37 * 10^{-3}) * CD_p^2 * WD_p * SP_p \right) + \sum_{q=1}^{V_p} (SFR_p * (HR_{p,q} - 1.0) * Z_{p,q}) \right]$$

(Eq. 6)

Where:

$E_{S,n}$  = Annual natural gas emissions at standard conditions, in cubic feet/year.

W = Total number of well venting events for liquids unloading for each basin.

$0.37 \times 10^{-3} = \{3.14(\pi)/4\} / \{14.7 \times 144\}$  (psia converted to pounds per square feet).

p = wells 1 through W with well venting for liquids unloading in the basin.

$CD_p$  = Casing diameter for each well, p, in inches.

$WD_p$  = Well depth from either the top of the well or the lowest packer to the bottom of the well, for each well, p, in feet.

$SP_p$  = For each well, p, shut-in pressure or surface pressure for wells with tubing production and no packers or casing pressure for each well, p, in pounds per square inch absolute (psia).

$V_p$  = Number of unloading events per year per well, p.

$SFR_p$  = Average flow-line rate of gas for well p, at standard conditions in cubic feet per hour. Use Equation 29 to calculate the average flow-rate at standard conditions.

$HR_{p,q}$  = Hours that each well, p, was left open to the atmosphere during each unloading event, q.

1.0 = Hours for average well to blowdown casing volume at shut-in pressure.

$Z_{p,q}$  = If  $HR_{p,q}$  is less than 1.0 then  $Z_{p,q}$  is equal to 0. If  $HR_{p,q}$  is greater than or equal to 1.0 then  $Z_{p,q}$  is equal to 1.

The following reporting requirements are already included under MRR Section 95157(c)(5):

- (5) For well venting for liquids unloading, report the following:
  - (A) For Calculation Methodology 1 (refer to Equation 6 of section 95153(e)), report the following:
    - 1. Count of wells vented to the atmosphere for liquids unloading.
    - 2. Count of plunger lifts. Whether the well had a plunger lift (yes/no).
    - 3. Cumulative number of unloadings vented to the atmosphere.
    - 4. Internal casing diameter or internal tubing diameter in inches, where applicable, and well depth of each well, in feet.
    - 5. Casing pressure, in psia, of each well that does not have a plunger lift.
    - 6. Tubing pressure, in psia, of each well that has a plunger lift.
    - 7. Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions, expressed in metric tons for each gas.
  - (B) For Calculation Methodologies 2 (refer to Equation 7 of section 95153(e)), report the following for each basin:
    - 1. Count of wells vented to the atmosphere for liquids unloading.

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- 2. Count of plunger lifts.
- 3. Cumulative number of unloadings vented to the atmosphere.
- 4. Average internal casing diameter, in inches, of each well, where applicable.
- 5. Report annual CO<sub>2</sub> and CH<sub>4</sub> emissions, expressed in metric tons for each GHG gas.

The [activity data under MRR](#) is submitted as an attachment in the Cal-eGGRT tool. A copy is included in Attachment A and a snapshot of the reporting section for Liquids Unloading is shown below:

Subpart W Activity Data Workbook - Section 95157											
Activity Data Reporting Requirements Petroleum and Natural Gas Systems											
Regulation Citation	Equipment or Activity and Associated Industry Segment	Reported Activity Data Elements ----->>>									
95157(c)(5)(A)	Well Venting Liquids Unloading - Methodology 1	Method 1 - Well Venting Liquids Unloading (provide casing diameter, well depth, and casing pressure for each well)									
	Industry Segment(s)	Identification of well(s) (add rows as needed)	Count of wells venting to atmosphere for unloading	Does the well have a plunger lift (yes/no)?	Count of plunger lifts	Cumulative number of well unloadings to the atmosphere	Internal casing diameter or internal tubing diameter (decimal inches)	Well depth (ft)	Casing pressure of each well without plunger lift (psia)	Tubing pressure of each well with plunger lift (psia)	CO <sub>2</sub> Emissions (MT)
95157(c)(5)(B)	Well Venting Liquids Unloading - Methodology 2	Method 2 - Well Venting Liquids Unloading (provide casing diameter for each well)									
	Industry Segment(s)	Identification of well(s) (add rows as needed)	Count of wells venting to atmosphere for unloading	Count of plunger lifts	Cumulative number of well unloadings to the atmosphere	Internal casing diameter or internal tubing diameter (decimal inches)	CO <sub>2</sub> Emissions (MT)	CH <sub>4</sub> Emissions (MT)			

The reported data under GHG MRR is verified annually by ARB-certified third party verification bodies that provide reasonable assurance of accuracy.

## **Recommendation**

Since the data requested under the proposed regulation is already available from data submitted under GHG MRR, WSPA recommends that ARB remove the redundant reporting requirements for GHG MRR reporters from the proposed regulation. We believe that this will improve efficiency of the overall AB32 program without causing redundant reporting burdens on operators. WSPA recommends the following change:

### *(h) Liquids Unloading of Natural Gas Production Wells*

*(1) The following requirements apply to natural gas wells that are vented to remove liquids that accumulate at the bottom of the production well and inhibit gas flow:*

*(A) Collect the vented natural gas used to remove accumulated liquids using a vapor collection system as described in section 95213(c); or,*

*(B) Measure the volume of natural gas vented to remove the accumulated liquids by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument) and report the results to ARB; or,*

*(C) Calculate the volume of natural gas vented to remove the accumulated liquids using the Liquid Unloading Calculation listed in Appendix B and report to the results to ARB.; or,*

*(D) Alternatively, if an operator reports emissions annually as required by Greenhouse Gas Mandatory Reporting Regulation, the operator meets the requirements of this section.*

## **WSPA Comments Leak Detection and Repair**

### **Issue**

Section 95213(i) of the proposed regulation requires that Operators conduct leak detection either annually using Method 21 or quarterly using an optical imaging instrument (OGI), except for components listed in 95213(i)(1). ARB has stated its intent is for the proposed regulation to align with existing air district LDAR programs. However, based on the draft language, WSPA is concerned that the scope and enforcement of the proposed regulation does not align with existing district LDAR programs as intended. Additionally, WSPA would like to understand how ARB conducted their cost effectiveness analysis.

### **Applicability**

From ARB's stakeholder meetings, workshops, and the Standardized Regulatory Impact Assessment (SRIA) published on 4/29/15, WSPA understands that ARB's intent is to implement an LDAR program that aligns with the existing local air district programs but also covers components that are currently not in a district LDAR program due to "< or = 10% VOC by weight" exemption.

WSPA is concerned that the proposed regulation does not clearly identify ARB's intent nor does it align with local air district programs. As written, the regulation can be interpreted to require duplicative monitoring of components currently subject to the existing local air district LDAR programs.

### **Exclusions**

ARB has excluded certain components from the LDAR requirements (95213(i)(1)) that are expected to have negligible methane from the LDAR requirements. However, this list does not include the following components also expected to have negligible methane:

- (i) *Components exclusively handling liquid streams with <10% by weight evaporation at 150°C.*

This exclusion is included in [SJVAPCD Rule 4409](#).

The rationale behind this exclusion is that there is not enough gas in the liquid streams that have <10% evaporation even at a high temperature of 150°C. Methane is already a gas at atmospheric temperature and pressure. As such, if the liquid stream contains <10% by weight evaporation at 150°C, the stream will have negligible amount of methane.

- (ii) *Components handling liquids with 90% by volume or greater water concentration.*

This exclusion is included in [SJVAPCD Rule 4409](#).

The rationale behind this exclusion is that water streams (after initial separation) with greater than 90% water by volume, have negligible amount of any gas. Most of the entrained gas is will have been flashed during initial separation.

## **Recommendation**

WSPA recommends that ARB maximize alignment with existing LDAR programs. WSPA will provide suggestions for clarity in subsequent comment letters.

WSPA recommends that ARB include additional exclusions that categorically exempt components that are expected to have negligible amounts of gas (and therefore, negligible amount of methane). As such, WSPA suggests the following changes to the proposed regulation Section 95213(i)(1):

*(C) Components incorporated in lines operating under negative pressure or below atmospheric pressure.*

*(G) Components exclusively handling liquid streams which have less than 10 percent by weight (<10 wt%) evaporation at 150°C.*

*(H) Components handling liquids with 90 percent by volume or greater (≥90 vol%) water concentration.*

WSPA will be providing additional comments on this source category after May 15. We will also provide suggestions to add clarity in the applicability of the proposed regulation and to improve alignment with existing local air district LDAR programs.