

Global Warming Potential (GWP)

Issue 1:

ARB has changed the Global Warming Potential (GWP) of Methane from 21 (100 year average), the value that was used in the previous economic impact analysis to 72 (20 year average). This change significantly impacts the emissions estimates and state-wide cost-effectiveness analysis for the proposed regulation as compared to the previous economic impact analysis. The use of a GWP of 21 for methane in the proposed regulation is inconsistent with other California AB32 Programs. In addition, ARB has not explained the reason for this change. Furthermore, this GWP change is not reflected in the definitions or anywhere else in the regulation. This is a significant change and is an issue not only for WSPA members but for all stakeholders that will be impacted by this regulation.

Using the 20-yr GWP of 21, which is almost three times the 100-yr GWP of 72, makes the emissions estimates from the regulation appear to be three times the emissions estimates of standard GHG programs like EPA's Greenhouse Gas Reporting Program (GHGRP), California's GHG Mandatory Reporting Regulation (MRR), and California's Cap and Trade Program. It also makes the costs for the methane regulation appear to be at least three times smaller when compared to other GHG programs.

WSPA firmly believes that the lack of a standardized GWP approach between the various AB32 programs will cause confusion among stakeholders when comparing the cost-effectiveness and efficiency of the various programs.

Recommendation 1:

WSPA recommends that ARB revise the regulation and use the 21 (100-yr GWP) for methane to be consistent with other EPA and ARB GHG programs.

Issue 2:

As noted above, currently, § 95667 of the proposed regulation does not incorporate a definition of Global Warming Potential of CH₄. This could lead to confusion and several issues during compliance demonstration and enforcement actions. WSPA recommends that ARB incorporate the definition of GWP of CH₄ into § 95667, which will ensure transparency and understanding of compliance requirements for all stakeholders.

Recommendation 2:

WSPA requests that ARB add the following term and definition to § 95667.

"Global warming potential" or "GWP" means the ratio of the time-integrated radiative forcing from the instantaneous release of one kilogram of a trace substance relative to that of one kilogram of a reference gas, i.e., CO₂. For the purposes of this regulation, the GWP of Methane is 21 (SAR GWP for 100-yr Time Horizon; [Table 2.14, IPCC Fourth Assessment Report: Climate Change 2007](#)).

State-wide Emissions Estimates

Issue 3:

ARB presented revised state-wide emissions estimates during the February 4th, 2016 workshop. WSPA greatly appreciates that ARB has incorporated actual emissions data for certain source categories provided by WSPA members into these estimates. With the exception of LDAR, this resulted in ~42% reduction in ARB's state-wide methane emissions estimates from 22,164 MT CH₄ (SRIA, GWP = 25) to 12,944 MT CH₄ (ARB Presentation 2/4/16, GWP = 72). However, we noted that there was no mention during the public workshop that the SRIA has or will be updated accordingly.

Below are a comparison of the previously proposed emissions estimates (SRIA) and the currently proposed emissions estimates.

SOURCE CATEGORY	SRIA MT CO ₂ e	SRIA MT CH ₄ (GWP = 25)	PROPOSED MT CO ₂ e	PROPOSED MT CH ₄ (GWP = 72)	CHANGE%
	April 2015		February 2016		
Separators and Tanks	252,000	10,080	538,000	7,472	-26%
Reciprocating Compressors	143,000	5,720	67,000	931	-84%
Centrifugal Compressors	10,700	428	3,000	42	-90%
Pneumatic Devices and Pumps	124,000	4,960	319,000	4,431	-11%
Recirculation Tanks For Well Stimulation Completions	24,400	976	5,000	69	-93%
TOTAL Not including LDAR	554,100	22,164	932,000	12,944	-42%
LDAR Program	1,200	48	220,000	3,056	6266%
TOTAL	555,300	22,212	1,152,000	16,000	-28%

WSPA would like to understand why the LDAR emissions estimates were increased 64 times or by ~6,266%. Based on information on existing LDAR programs and leak rates that were provided to ARB early in the rule-development process, the initial estimates correctly represented the state-wide emissions inventory. WSPA believes that ARB's current LDAR emissions estimates, and thus its cost-effectiveness analysis, are significantly skewed and do not represent actual emissions. Most operators have existing and mature leak detection and repair programs. Operators have already shared data on leakage rates with ARB (2013 MRR data were provided previously in WSPA's comment letter dated May 22, 2015, copy attached) that indicates leakage rates far below ARB's estimates. ARB has not yet adequately explained the basis and analysis resulting in the conclusions presented above; . Without understanding the basis of the emissions and how the emissions represent various sectors described in the proposed regulation (§ 95666(a)), it is difficult, if not impossible, for stakeholders to provide

appropriate and meaningful input during the rule development process, especially given the very short comment period deadlines. In addition, ARB's current economic analysis does not clearly demonstrate the cost-effectiveness of the proposed regulation by each sector, highlighting superficial/false benefits and masking the economic impact of the proposed regulation on all oil and gas producers.

Recommendation 3:

WSPA requests that ARB provide the basis for the LDAR emissions estimates and cost-effectiveness by each sector described in the proposed regulation (§ 95666(a)). After this information is provided to stakeholders, WSPA recommends that ARB allow sufficient time for the stakeholders to provide meaningful input based on the additional information received.

State-wide versus Unit-Level Cost Effectiveness of the Proposed Regulation

Issue 4:

During the February 4, 2016 workshop, ARB stated that only the state-wide cost-effectiveness of the proposed regulation had been conducted despite previous comments requesting unit-level analysis. WSPA believes that it is critical to understand the economic impacts at the unit level (such as at an operator/system level) in order to clearly understand the impact of the regulation on operators. Significant variations can exist between an operator's emissions, the cost of control, and direct benefits received by the operator. Lack of transparency in unit-level cost-effectiveness and practically low/no applicability thresholds in the proposed regulation will lead to significant adverse impacts on small and medium-sized operators. Unit-level analysis can demonstrate operator-level economic burden, where the most impact will be felt. Additionally, without a reasonable threshold for cost-effectiveness at the unit-level, ARB is assuming the same cost and benefit will occur for all operators which is unlikely to be the case.

This concern has been raised several times by multiple stakeholders including WSPA, California Independent Petroleum Association ([CIPA, letter dated 5/28/15](#)), and Department of Finance ([DOF, letter dated 5/28/15](#)) as outlined below.

- In their letter dated 5/28/15, CIPA requested "that staff prepare an updated and detailed economic impact document which clearly shows what the individual impact potential would be on entities" due to concerns regarding the macro-scale view of the SRIA.
- In our letter dated 5/22/15, WSPA outlined the significant differences in emission reduction estimates included in the SRIA and reported 2013 MRR data.
- In our letter dated 5/22/15, WSPA requested that ARB "provide transparent calculations and unit clarifications that result in a revised cost-effectiveness determination or clear demonstration" of how annual benefits were reached.
- In their letter dated 5/28/15, DOF requested that ARB "include the direct cost of each alternative in the SRIA rather than just the overall impacts" and that ARB "discuss how an individual facility's characteristics, such as emission rates and existing control devices, may affect the calculation of direct costs, and thus economic impacts of the proposed regulations".

ARB has not yet responded to any of these serious concerns. WSPA would like to reiterate its belief that this critical gap in ARB's economic analysis must be addressed prior to the 45-day comment period.

Recommendation 4:

Based on the limited information provided at the February 4, 2016 workshop, WSPA does not agree with nor support ARB's calculated cost-effectiveness analysis and the basis for many of the proposed regulatory recommendations. In the absence of more specific information, as described previously, WSPA strongly recommends that ARB revise their cost-effectiveness calculations based on information WSPA has already provided, both in terms of cost estimates and more accurate emissions data for the referenced source categories (i.e. recirculation tank emissions and leaks). Additionally, WSPA recommends that ARB clearly demonstrate unit-level economic impacts and the thresholds considered for applicability so that all affected stakeholders have an opportunity to comment appropriately during the comment period.

Compliance Schedule

Issue 5:

ARB has proposed the following schedule for rule development with a compliance date of January 1, 2017 for several requirements.

Next Steps

- Requesting feedback on this revised draft regulation by **February 18, 2016.**
- 45-day comment period with Staff Report and Environmental Analysis begins **April 1, 2016.**
- Board Meeting **May 19, 2016.**
- Second Board Meeting tentatively scheduled for **September 2016.**

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The proposed compliance schedule is unrealistic and will not allow all affected operators to comply within the proposed timelframes. The current regulatory schedule suggests that the rule will not be finalized until the 4th quarter of 2016 at the earliest. The 37 Air Districts will have at

most three months or less to develop their regulations, conduct stakeholder engagement meetings, incorporate stakeholder input, and develop administrative processes for the operators to obtain permits/registrations as deemed necessary by each Air District.

It is not only difficult for the Air Districts to accomplish all these tasks within such a short timeframe but also tremendously onerous for the operators who are required to comply with both ARB and the Air Districts' regulations. Without a complete understanding of the requirements, administrative processes, and compliance methods from the Air Districts, operators will find it impossible to comply with the requirements by the proposed compliance deadline of January 1, 2017. Operators will not be given sufficient time to assess the compliance gaps and associated required actions at their facilities before this time, let alone secure funding, resources and appropriate reviews for large capital projects such as the installation of a vapor recovery system as discussed below under "Storage Tanks".

Recommendation 5:

WSPA strongly recommends that ARB work in collaboration with the Air Districts and the oil and gas industry to develop a more reasonable compliance schedule accommodating both ARB's and Air Districts' rule development processes and schedules. WSPA recommends that, at a minimum, the proposed regulatory compliance deadlines be adjusted by one calendar year with a first compliance deadline of January 1, 2018 for measurement and monitoring requirements and January 1, 2019 for control requirements (i.e. storage tanks). This would provide a feasible and realistic timeframe for the various Air Districts (for rule development, public comment, and rule adoption) and affected operators.

General Definitions

WSPA requests that ARB revise certain definitions in § 95667. The clarity and correctness of these definitions are central to all operators' understanding and ability to comply with the regulation. Listed below are some general requested corrections; WSPA will be providing more additional corrections and clarifications in our follow-up letter.

Issue 6:

"Emissions" means the discharge of natural gas into the atmosphere.

- WSPA believes that this definition is inconsistent with the original intent of the rule to control CH₄ emissions.
- ARB's emissions estimates and cost-effectiveness analyses use "MT CH₄" as the basis of the proposed GHG standards.
- Many sections of the proposed regulatory text require a certain percentage of emissions reductions. This will require an operator to demonstrate compliance in terms of a standard unit of measure such as MT CH₄.
- Additionally, § 95674(c) describes enforcement in terms of "*metric ton of methane.*"

The inconsistency between the definition and the remainder of the regulation will cause issues not only during compliance demonstration but also for the purposes of enforcement.

Recommendation 6:

WSPA requests that ARB clarify this language throughout the regulation in order to provide a consistent and measureable standard. WSPA recommends that ARB define “Emissions” as follows:

“Emissions” means the discharge of methane natural gas into the atmosphere.

Storage Tanks

Issue 7:

“Flash or flashing” means a process during which gas entrained in crude oil, condensate, or produced water under pressure is released when the liquids are subject to a decrease in pressure or increase in temperature, such as when the liquids are transferred from an underground reservoir to the earth’s surface.

WSPA believes that this definition in § 95667 is representative of the flashing process except for the phrase “or increase in temperature”. Flashing only occurs when it is due to a pressure change from transference from an underground reservoir to the Earth’s surface. Increase in temperature may lead to evaporation of liquid, which is not considered a flashing process. As explained in our previous comments provided to ARB in May 2015, a correct description of flashing phenomenon can be found in [American Petroleum Institute’s \(API’s\) 2009 GHG Compendium](#):

5.4 Storage Tank Emissions

5.4.1 Crude Flashing Losses

Where liquids are in contact with a gas phase, high pressures will cause some of the gas to go into solution (i.e., thermodynamic equilibrium between the phases will eventually occur). When the liquid is brought to atmospheric conditions, the solution gas is released through a rapid process called flashing.

Crude oil production tanks (primarily fixed roof tanks) emit CH₄ (and potentially CO₂ for a CO₂-rich stream) through flashing losses, which occur as the crude oil pressure decreases from the separator conditions to atmospheric pressure in the storage tank. Flashing emissions can be significant where there is a significant reduction in pressure. This primarily occurs in production operations; however, flashing emissions can also occur from oil pipeline pigging. Once crude oil reaches atmospheric pressure and the volatile CH₄ has flashed off, the crude is considered “weathered” or stabilized. Unless site-specific data indicate otherwise, “weathered” crude is assumed to have no CH₄.³

Recommendation 7:

WSPA recommends that ARB correctly define the physical process of “Flash or flashing” as follows:

“Flash or flashing” means the process during which gas entrained in crude oil, condensate, or produced water under pressure is released when the liquids are subject to a decrease in pressure ~~or increase in temperature~~, such as when the liquids are transferred from an underground reservoir to the earth’s surface.

Issue 8:

“Separator and tank system” means a separator and any tank or sump connected directly to the separator. For the purpose of this article, in crude oil, production, a pressure vessel used to separate crude oil and produced water is also considered a separator; in dry or natural gas production, a pressure vessel used to separate gas from water is also considered a separator.”

WSPA understands that ARB’s requirement for control of separator and tank systems applies to first and second vessels downstream of the well. However, the current definition in § 95667 does not specify ARB’s intent. As written, the definition needs to be clarified so that it is consistent with our understanding of the tanks that will be subject to VRU requirements, assuming the 10 MT CH₄/yr limit is triggered. Additionally, it appears that language provided for separator under the definition of “Separator and tank system” should be included under the definition for “Separator”.

Recommendation 8:

WSPA requests that ARB clarify the following definitions as follows.

“Separator” means any tank used for the separation of crude oil, condensate, produced water, or natural gas. ~~For the purpose of this article, in crude oil production, a pressure vessel used to separate crude oil and produced water is also considered a separator; in dry or natural gas production, a pressure vessel used to separate gas from water is also considered a separator.~~

“Separator and tank system” means ~~a the first separator receiving production directly from a well and any tank or sump connected directly to the first separator. For the purpose of this article, in crude oil, production, a pressure vessel used to separate crude oil and produced water is also considered a separator; in dry or natural gas production, a pressure vessel used to separate gas from water is also considered a separator.~~

Issue 9:

In ARB’s presentation during the February 4, 2016 public workshop, it was stated that the Crude Oil, Condensate and Produced Water Separation and Storage provisions of the proposed regulation (§ 95668(a)) would only apply to 20 separator and tank systems across the state. All of ARB’s cost-effectiveness analysis and economic impact assessment has been conducted following these assumptions. The details of these analyses are not yet available for review or comments. However, 2013 GHG MRR data indicates that about 20 tank separator and systems would be above the threshold of 100 MT CH₄ (not 10 MT CH₄).

Based on the same data, WSPA is aware of at least 27 tank systems that would fall above the annual threshold of 10 MT CH₄. Including non-WSPA members, we estimate that approximately 50 or more tank systems would be affected by this regulatory requirement state-wide. Several small and medium-sized operators will be subject to the adverse impacts of the proposed regulation. WSPA re-asserts the importance of conducting unit-level cost effectiveness analysis for objectively evaluating economic impacts. WSPA's previously submitted comments on May 22, 2015 address the high costs associated with the installation of these systems (letter is attached). Based on 2013 MRR data, a threshold of 10 MT CH₄/yr would result in a compliance cost of about \$200/MT CO₂e (GWP = 21 for CH₄) controlled.

Recommendation 9:

WSPA requests that ARB make the technical basis for this estimation available to relevant stakeholders. WSPA strongly urges ARB to review the data that has already been provided to it and re-consider the threshold of applicability at 100 MT CH₄ that will have a 20-yr cost-effectiveness of ~\$40/MT CO₂e (GWP = 21 for CH₄) controlled.

Issue 10:

The current timeline for compliance in the proposed regulation forces an impossible compliance schedule on owners and operators of affected facilities. In addition to the significant concerns expressed in Issue 4 above, the installation of a vapor recovery system is a large capital project with a cost of at least \$500,000. Prior to the commencement of system construction, a full engineering analysis (throughput capacity, efficiency, and design), and a safety and risk assessment of the system must be conducted. Additionally, a permit must be obtained through the local air district for all new systems (Existing San Joaquin APCD Rules 2010 and 2020). Operators need to be given sufficient lead time in order to plan, engineer, budget, permit and secure necessary contractors, equipment and schedules in order to meet the compliance deadlines.

Recommendation 10:

In order to implement a potentially feasible compliance deadline for the installation of new vapor recovery systems, WSPA strongly recommends that at a minimum, ARB adjust the regulatory compliance deadline to January 1, 2019.

Issue 11:

WSPA is re-submitting this comment (first submitted in our letter dated May 15, 2015) on the technical feasibility of flash testing protocol in low liquid volumes fields. The proposed regulation requires operators 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 uncertain of the feasibility of conducting this test for wells that may not have sufficient condensate/liquid to conduct a flash liberation test according to the protocol.

Recommendation 11:

WSPA strongly recommends that ARB allow alternative methods of compliance (such as engineering estimates) to determine flash emissions for low liquid producing wells where the flash liberation tests may not be technically feasible.

Issue 12:

The current regulation is unclear on the timeline of compliance if the results of a flash liberation test demonstrate that the threshold is exceeded after the first year of flash testing (e.g. during 2019). It is our understanding that the compliance deadline for control requirements for such scenario would be January 1, 2020.

Recommendation 12:

WSPA requests that ARB clarify the compliance deadline for control requirements for separator and tank systems that exceed the threshold after the first year of flash testing. Additionally, ARB must allow appropriate time for all affected operators to install control requirements, taking into account all of the factors described above.

Issue 13:

Section 95668(8) of the proposed regulation states that “flash analysis testing, record keeping, and reporting shall be conducted within one calendar year of adding a new well to the separator and tank system since the time of previous flash analysis testing”. Additionally, §95668(a)(9) states that “Flash emissions should be recalculated if the annual crude oil, condensate, or produced water throughput increases by more than 10 percent since the time of the previous flash analysis”. In order to comply with these requirements, an operator would have to monitor well by well, monitor insignificant production flows to each separator and tank system, and conduct multiple flash liberation tests just to show that the tank system does not meet the threshold.

WSPA believes that this is an impractical and extremely burdensome requirement. The constant change and variability within California oil fields means that, in all likelihood, most affected tank systems in the state will have a new well added (as well as wells taken off production) every year. This fact effectively nullifies the ability to reduce flash testing requirements to every 5 years for very low production systems that will not meet the threshold. Flash emissions would not be expected to change just by adding an additional well, especially if throughout remains consistent as the new wells would likely replace production from declining wells. WSPA also believes that a 10 percent value is not a valid basis for re-testing for flash emissions. Given the variation in reservoir mechanics, total production and throughput can easily vary by 10 percent over very short periods of time due to temporary anomalies leading to multiple flash tests within a year. However, the total annual production would be consistent year to year with only gradual changes.

WSPA believes that this level of well by well monitoring is not necessary to determine if there is a significant change in the emissions of a separator and tank system. WSPA suggests that ARB consider statistically significant changes as a trigger for flash testing requirement. In most cases, 20 percent is considered a statistically significant change. However, such an increase would be required to manifest itself over a given time period in order to be classified as anything more than a temporary anomaly.

Recommendation 13:

WSPA recommends that ARB remove § 95668(a)(8) and revise § 95668(a)(9) to include a requirement to re-calculate flash emissions only in the event of a statistically significant (20 percent or greater) increase in throughput which is maintained continuously over a three month period.

Issue 14:

WSPA requests that ARB clarify the understanding of the interaction of the separator and tank system standards of § 95668(a) and the leak detection and repair program (LDAR) of § 95669. WSPA understands that all equipment, including tank systems and tank systems fitted with a vapor recovery system, that is covered by a local air district LDAR program is not subject to the requirements of § 95669. In many cases, such as in the San Joaquin Valley APCD, tank systems are already covered under an existing LDAR program.

Recommendation 14:

WSPA recommends that ARB clarify the intent in § 95668(a)(6) to exclude separator and tank systems that are already covered by an Air District LDAR program.

Recirculation Tanks

Issue 15:

WSPA re-asserts our significant safety concerns with the capture and control of gas from recirculation tanks. WSPA has already provided numerous comments (in letters dated May 15, 2015 and May 22, 2015, both included as attachments to this letter) describing the fire and explosion risks associated with capture and control of emissions from recirculation tanks. WSPA would like to emphasize the following issues again -

- **Vapors collected from the recirculation process are at low pressures and oxygen-rich with varying concentrations of insignificant amounts of methane (see WSPA recirculation tank test results). In comparison, an existing permanent vapor recovery system (that controls an entire tank farm) or an existing fuel line (highly pressurized) is stabilized and pressure-balanced with high concentrations of methane and VOCs (little or no oxygen). Routing low-pressure, temporary, variable, and oxygen-rich vapors to an existing stabilized vapor recovery system or fuel line can create an ideal environment for fire and explosion hazards putting the entire tank farm at risk.**

As an example, the proposed EPA 40 CFR Part 60 Subpart OOOOa clearly outlines this concern for capturing flowback emissions (not recirculation of fluid to remove completion solids from a wellbore) providing exceptions in cases where safety is a significant issue—

“You must capture and direct recovered gas to a completion combustion device except in conditions that may result in a fire hazard or explosion....”

You have a general duty to safely maximize resource recovery and minimize releases to the atmosphere during flowback and subsequent recovery.” (40 CFR 60.5375a(a)(3) & (4))

- There is not enough pressure from these tanks to allow the gas to be introduced into a vapor recovery system. In the current proposed regulation, ARB has not considered the possibility of not being able to implement the options of control currently available, especially where the gas volumes are low, fluctuating and of poor quality. These conditions are the ones that make the amount of methane released to the atmosphere insignificant. Low amounts of gas would require a compressor and supplemental fuel for flare/thermal oxidizer pilot and purge (additional combustion sources).
- Technologies provided by the two vendors (who were consulted) have been used only for flowback and production processes where the amount of gas is significantly higher than the wellbore sand cleanup process (*i.e.*, Texas, Oklahoma, Montana, North Dakota). The two vendors have clearly stated that their technologies have not been tested or used in the wellbore sand cleanup process operations in California. The

proposed “new” systems from vendors are yet to be tested or used in wellbore sand cleanup process and there are no guarantees that those systems will work as expected.

- There is no proven existing technology that can capture the small amount of gas/vapors from these events and control with a demonstrated efficiency of 95%.
- Based on WSPA’s recirculation tank testing data, the volume of gas recovered from each event is expected to be very small (~500 scfm) with low concentrations of methane (~3,200 ppmv or 0.245 MT CH₄) because in most cases the permit conditions require operators to have auto-pilot to ensure that low amounts of gas are combusted.

None of the control options proposed in the regulation are achievable for the recirculation events that occur in California. WSPA strongly recommends that ARB include alternative methods to control emissions from circulation tanks. As stated previously in our May 22, 2015 comment letter, WSPA’s recommendations are as follows:

Alternative Methods of Control:

Based on the reasons described above, WSPA urges that ARB incorporate an alternative option to reduce emissions associated with circulation tanks. WSPA recommends a Best Practices Management Plan (BMP) be included as an alternative method of control. Some of the best practices that can be implemented include –

- (A) Use of SandX or similar tanks instead of open shaker pits
- (B) Optimization of recirculation rates to balance duration
- (C) Reduce duration of recirculation per event to minimum practicable
- (D) Influx Control Plan
- (E) Visual inspection of recirculation fluid
- (F) Monitor the recirculation tank level for influx
- (G) Influx Response Plan

WSPA will provide the technical basis for these alternative methods of control and estimated emissions reductions from these methods in our follow-up letter.

Recommendation 15:

WSPA recommends that ARB allow operators to develop and implement a BMP and demonstrate how the emissions are minimized for each event as an alternative method of control to the methods proposed in the draft regulation.

Leak Detection and Repair

Issue 16:

The proposed regulation defines a component as follows:

“Component” means a valve, fitting, flange, threaded-connection, process drain, stuffing box, pressure-vacuum valve, pipe, seal fluid system, diaphragm, hatch, sight-glass, meter, open-

ended line, pneumatic device, pneumatic pump, centrifugal compressor wet seal, or reciprocating compressor rod packing or seal.

The definition of “component” includes pipes subject to the leak detection and repair requirements. This definition is the same as in SJVAPCD Rules 4401 and 4409. These rules include only annual visual inspections rather than Method 21. Additionally, visual inspections of pipes are already required to be conducted annually by the Department of Oil, Gas, and Geothermal Resources (DOGGR) pursuant to California Code of Regulation Title 14, Division 2, Subchapter 2, Section 1774 (Oilfield Facilities and Equipment Maintenance), and by the Spill Prevention Control and Countermeasure Plan (SPCC) pursuant to 40 Code of Federal Regulation Part 112 (Oil Prevention and Response: Non-Transportation-Related Onshore and Offshore Facilities). WSPA assumes that ARB does not intend operators to have redundant inspection requirements for the same components. However, the proposed regulation does not explain this.

Recommendation 16:

WSPA recommends that ARB add the following regulatory language for pipeline inspections:

On an annual basis, operators shall visually inspect all pipes that are not already subject to an existing Local Air District or DOGGR or SPCC visual inspection program. Any visual inspection of pipes that indicates a leak that cannot be immediately repaired to meet the leak standards of this rule shall be inspected within 24 hours after detecting the leak. If a leak is found, the leak shall be repaired as soon as practicable but not later than the time frame specified in Table 1 or 2 of this rule.

Issue 17:

As drafted, the regulation is unclear and could be interpreted to include liquid lines that contain negligible amounts of entrained natural gas. If ARB’s intent is to include liquid lines, WSPA would like to re-assert previously provided technical bases for excluding certain liquid lines that have negligible amounts of methane as follows (previously stated in WSPA letter dated May 15, 2015) -

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

This exclusion is currently 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 amounts of any gas. Most of the entrained gas will have been flashed during initial separation.

Recommendation 17:

WSPA strongly urges ARB to maximize alignment with existing LDAR programs. 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) to § 95669(e):

Components incorporated in lines operating under negative pressure or below atmospheric pressure.

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

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

WSPA will provide additional recommendations on this source category in our follow-up letter.

Issue 18:

The proposed regulation requires daily or weekly audio-visual inspections of facilities pursuant to § 95669(a) and (b). This is redundant with the quarterly leak inspections prescribed in the same section of the regulation. This is an impracticable requirement which mandates operators to hire and retain full time staff and vehicles just to conduct audio-visual inspections. In addition to the costs associated with conducting quarterly inspections, operators would have to incur additional costs for additional FTEs. Furthermore, the inclusion of this practice in the regulation introduces costs associated with unnecessary reporting and record-keeping burden on all facilities. WSPA firmly believes that ARB has not considered costs associated with redundant audio-visual inspections in the cost-effectiveness analysis.

Additionally, inspecting some remote facilities would result in additional mobile combustion emissions associated with driving hundreds of miles per week to visit all unmanned facilities. WSPA believes these emissions estimates have not been considered by ARB in the cost-effectiveness and benefits analysis.

Recommendation 18: WSPA requests that ARB eliminate redundant audio-visual inspection requirements and remove the language of § 95669(b) and (c) from the regulatory text.

Issue 19:

WSPA requests that ARB clarify the process of identifying a component as critical as discussed in § 95670 of the proposed regulation. WSPA is concerned that the current regulatory language puts regulatory agencies (ARB or local air districts) in the position of being the decision maker regarding which components are critical to process operations. WSPA believes that regulatory agencies should defer to facility engineers and inspectors and their superior process knowledge for this decision, especially in the face of safety concerns.

Recommendation 19:

WSPA recommends that ARB allow knowledgeable operators to identify and designate the critical components without ARB approval.

Issue 20:

As ARB noted in their February 4 workshop, the majority of facilities are already in a mature LDAR program run by a local air district. With several years of data, these facilities show very low leak rates. Minimal additional methane reduction will be gained with quarterly inspections for operators already in LDAR programs, while costs will quadruple. Mandating quarterly inspections to demonstrate lower leak rates is an extremely onerous requirement without benefit. Operators who can demonstrate a leak rate below the proposed leak rates in the regulation within the first quarter of the first year of compliance should be allowed to continue with annual inspections only. This will also encourage operators to proactively comply with the leak detection requirements in the regulation.

Recommendation 20:

WSPA recommends that ARB allow operators to demonstrate lower leak rates than proposed in the regulation during the first quarter of the first year of compliance. Such operators should be allowed to continue with annual inspections only unless the operator exceeds the thresholds in subsequent inspections, at which time quarterly inspections would be required. WSPA will provide recommendations for regulatory language in its follow-up letter.

Pneumatic Devices

Issue 21:

As in other parts of the proposed regulatory text, §95688(f) – Natural Gas Pneumatic Devices and Pumps – includes compliance dates that are unachievable based on the current timing of the regulatory process. Notably, § 95668(f)(2) states that:

A natural gas powered pneumatic device installed prior to January 1, 2015 may be used provided it meets the following requirements:

WSPA is concerned that ARB is attempting to retro-actively regulate pneumatic devices with this requirement, making it impossible to comply with the regulation and putting some operators in a state of non-compliance before the regulation is even adopted. Additionally, in conjunction with the language in the remainder of this section (95668(f)(3) – (6)), requirements for pneumatic devices installed between January 1, 2015 and January 1, 2018 are unclear.

WSPA believes that it is imperative that ARB only adopt requirements that operators are able to comply with.

Recommendation 21:

WSPA requests that ARB remove the retro-active compliance requirements. WSPA requests that ARB adopt the following regulatory language for § 95668(f):

(2) *Natural gas-powered continuous and intermittent bleed pneumatic devices installed prior to **January 1, 2018** may be used provided it meets the following requirements...*

Issue 22:

While a definition of a continuous bleed pneumatic device was added to the most recent text of the proposed regulation, the term was left out of the regulatory text in the discussion of the control of pneumatic devices. This has resulted in substantial confusion among affected parties as well as contradictory regulatory requirements within the § 95668(f) discussion of pneumatic control requirements.

Recommendation 22:

WSPA recommends that ARB adopt the following regulatory language in order to correct and clarify the proposed regulatory language in § 95668(f):

*(3) Pneumatic devices **installed on or after January 1, 2018** shall not **continuously** vent natural gas to the atmosphere and shall comply with the leak detection and repair requirements specified in section 95669.*

(4) Beginning January 1, 2018, intermittent bleed pneumatic devices shall not vent natural gas when not actuating determined by testing the device when not actuating in accordance with the leak detection and repair requirements specified in section 95669.

*(5) Pneumatic pumps **installed on or after January 1, 2018** shall not vent natural gas to the atmosphere and shall comply with the leak detection and repair requirements specified in section 95669.*

*(6) Beginning January 1, 2018, **existing continuous bleed** pneumatic devices and **pneumatic** pumps shall be retrofitted or replaced to prevent natural gas from venting to the atmosphere or shall be controlled according to one of the following methods:*

Issue 23:

Section 95668(f)(6) of the proposed regulation requires existing continuous bleed pneumatic devices and pumps to be connected to a vapor recovery system or use compressed air beginning January 1, 2018. In certain cases, venting pneumatic devices, including continuous bleed devices, may be required as a safety measure or may be necessary at remote locations where electricity is not available.

Current regulations allow continuous bleed pneumatic devices in extreme circumstances. 40 CFR Part 60, Subparts OOOO and the recently proposed OOOOa allow the use of pneumatic devices and pumps should it be determined that the device is required based on functional or safety needs of the affected facility. Additionally, the state of Colorado's Oil and Gas Regulation allows for the use of high bleed pneumatic controllers for safety and or process purposes.

Recommendation 23:

WSPA recommends that ARB allow continuous bleed devices in limited situations such as for safety or at remote locations, in alignment with the provisions of the Colorado Oil and Gas Rule

and 40 CFR Part 60, Subparts OOOO and proposed OOOOa. WSPA recommends the addition of the following language to allow for continuous bleed devices in these circumstances –

(6) Beginning January 1, 2018, existing continuous bleed pneumatic devices and pneumatic pumps shall be retrofitted or replaced to prevent natural gas from venting to the atmosphere or shall be controlled according to one of the following methods except as provided in 95668(f)(6)(C) and 95668(f)(6)(D) below:

C. For continuous bleed devices in service prior to January 1, 2018, the owner/operator shall submit justification for the devices to be in service due to safety and/or process purposes by September 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 of receipt.

D. For continuous bleed devices placed in service on or after January 1, 2018, 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 of receipt.

Issue 24:

WSPA noted that staff is considering a leak emission reduction requirement for “large or catastrophic” leaks at any oil and gas facility. WSPA does not believe that it is necessary for ARB to address this issue, as there already exist Federal, State (DOGGR) and local Air District programs and requirements for the reporting of significant leaks as well as leak monitoring requirements. WSPA will be providing additional comments on this issue in our follow-up letter.