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THE SHIFTING LANDSCAPE OF QUAD OA

ERIC WAECKERLIN, PARTNER
HOLLAND & HART LLP
ROCKY MOUNTAIN EHS PEER GROUP
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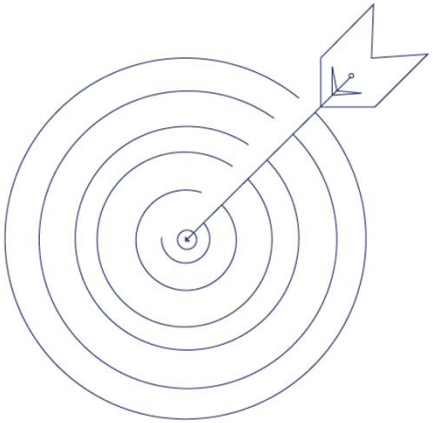
TODAY'S DISCUSSION



- Briefly: How we Got Here
- 2018 Proposed Rule Highlights
- Shifting Industry Positions?
- What to Expect in 2019

Clean Air Act Section 111(b)

NSPS are required for "a category of sources" if in EPA's judgment the source category "**causes or contributes significantly** to, air pollution which may reasonably be anticipated to **endanger** public health or welfare"

THE LONG AND WINDING ROAD

1970
CAA

1979
"Crude oil and natural gas production"

1985
VOCs/SO2 NSPS for natural gas processing plants (KKK/LLL)

2012
NSPS OOOO

2013/2014
Technical amendments (storage tanks/green completions) + petitioners for reconsideration

2013/2014
Obama Climate Action Plan/Methane Strategy

2016
NSPS OOOOa

2018
Proposed Reconsideration Amendments

2017 LEGAL PETITIONS FOR RECONSIDERATION

INDUSTRY

- PE certs for CVS
- Pathway to reduce LDAR frequency
- Low production well offramps from LDAR
- Simplify "state equivalency"
- Definition of "modification" (HF + new equipment)
- Variety of technical/definition changes

EDF

- Zero-emission PCs in all segments
- Storage vessel methane standards (extend LDAR to storage tanks)
- Timeframe for LDAR repair (15 day normal/6 months infeasable/unsafe)
- 111(d) existing source guidelines

Clean Air Act Section 111(d)

EPA must prescribe regulations which shall establish a **procedure** similar to [SIPs] where each **State** submits a **plan** to EPA for regulating ESPS for **any air pollutant** if (1) the air pollutant does not have a NAAQS or HAP standard; and (2) "to which a standard of performance would apply if such ESPS were a new source"

2018 PROPOSED RULE HIGHLIGHTS

- LDAR
- Pneumatic pumps
- Closed vent system PE cert
- Alternative Means of Emissions Limitations (AMEL)
- Clarifications
  - Green completions (separator location)
  - Cap ex for NGPs
  - Storage vessel (max/avg daily)
  - Recordkeeping & reporting

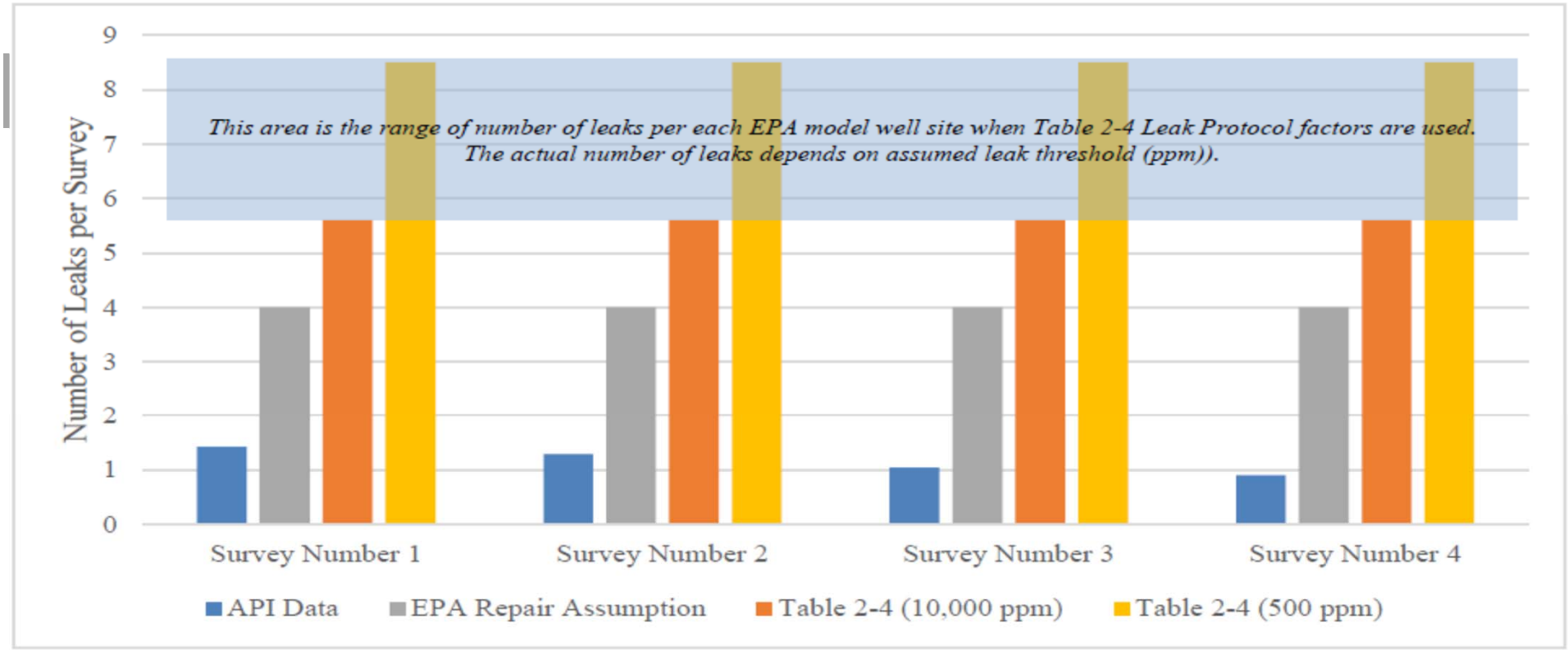
VARIOUS INDUSTRY POSITIONS

API

Annual frequency supported by OOOOa and other data

- 4,000 well sites vs. 24 for EPA Table 2-4
- Quad Oa data show:
  - 58% sites = 0 leaks
  - Avg leaks/site = < 2 components (initial); < 1 (subsequent)
  - 92% of all surveys = < 4 leaking components
- Table 2-4 assumes between 1.6% and 2.5% of components leaking
- EPA overestimated leaking components 2.5 to 4 times

Figure 1. Comparison of Actual Leaks Observed under Subpart OOOOa vs. EPA Model Plant Data Assumptions



Source: API comments

VARIOUS INDUSTRY POSITIONS

API

LDAR (cont)

Relative to 2016 rule, 77-78% of LDAR reductions and 87% of all reductions still realized after accounting for state programs (OH, PA, CA, CO, WY) *even with overestimates*

Low production wells

- Exempt low-production wells
- Cease or reduce monitoring frequency (12 months avg 15 BOE/day)

R&R

- Low production – identify methodology and site only
- Exempt meter assemblies owned/operated by third parties at compressor stations
- Streamline R&R requirements more generally (no photos, no walk path etc.)

VARIOUS INDUSTRY POSITIONS

API

Modification

- Does wellsite change increase calculation re: *fugitive* emission rate?
- Increase in flow/pressure does not necessarily increase emissions
- Must consider emissions *prior to* new well operation
- Change in # of fugitive emission components is the *only* modification that could ↑ emissions

AMEL

- Modeling (vs 12 months field data) for alternative technology
- Operator should not be required to be part of application for emerging technology
- Basin-wide approvals consistent with CAA and case law (*Util. Air Regulatory Grp. v. EPA*, 471 F.3d 1333 (D.C. Cir. 2006); *Central Ariz. Water Conserv. Distr. v. EPA*, 990 F.2d 1531 (9th Cir. 1993))

VARIOUS INDUSTRY POSITIONS

API

AMEL (cont).

- Recognize already approved state programs as *wholly equivalent* and fully delegate implementation, including R&R (e.g., OH, PA, CA, CO, WY)
- Alternatively: use OOOOa "component" definition, but remainder state program

IPAA

- EPA language still prohibits averaging across tank batteries
- Averaging across tank battery is appropriate no matter the configuration (in series vs. in parallel with "splitter")
- Overestimates emissions by allowing 30-day calculation only on days of actual throughput

VARIOUS INDUSTRY POSITIONS

IPAA

- Same “low production wells” comments as API (more detail)
- EPA language still prohibits averaging across tank batteries
- Limits to only days that production sent to a particular storage tank (skews the avg)
- Operators have been “incorrectly averaging emissions across storage tanks”
- Averaging across tank battery is appropriate no matter the configuration (in series vs. in parallel); VRUs capture flash emissions
- Highlights issues with EDF’s 2015 “super-emitters” study (used by EPA for OOOOa): data is skewed to “imply that low production wells are large emitters when they are not”
- Legally and practically enforceable controls for storage tank PTE must include *sufficient monitoring to timely identify and repair emissions from storage vessels*

WHAT'S NEXT?

METHANE/EXISTING SOURCES (111(d))

XOM

"ExxonMobil supports federal regulatory standards to mitigate methane emissions for both new and existing source oil and gas facilities"

IPAA

Regulating methane under 111(b) "opens a pathway to nationwide existing source regulations" expanding the scope of possible sources from 20,000 to 770,000."

WHAT'S NEXT?

EPA

"While this action addresses an immediate need, it does not deter the ongoing work at the Agency to assess the 2016 rule as a whole, including whether it is prudent or necessary to directly regulate methane." **Bill Wehrum, March 2018**

"Decreasing methane emission is a mutual interest of industry and EPA" and the "agency is committed to helping companies voluntarily reduce methane emissions" **Bill Wehrum, June 2018**

"It will be a closer question" for oil and gas… "I'm sure we'll ask the same question [as in the CPP] but it will be much more relevant in [the O&G] context because we're dealing with a smaller slice of the emissions inventory" **Bill Wehrum, September 2018**

WHAT'S NEXT?

CAA 111(b) LEGAL STANDARD

- "List a category of sources"
- "Causes, or **contributes significantly** to, air pollution"
- "May reasonably be anticipated to **endanger** public health or welfare"

WHAT'S NEXT?

2016 EPA JUSTIFICATION RE: 111(b) REQUIREMENTS

"[E]ven assuming [revisiting the 1979 endangerment finding is needed], . . . there is ample evidence that this **source category as a whole** (oil and natural gas production, processing, transmission, and storage) **contributes significantly** to air pollution that may reasonable anticipated to **endanger** public health and welfare"
81 Fed. Reg. at 35,833

"Moreover, even if CAA section 111 required the EPA to make an endangerment finding as a prerequisite for this rulemaking, then, the information and conclusions described [in this preamble] should be considered to **constitute the requisite finding** (which includes a finding of endangerment as well as a cause-or-contribute significantly finding)." **81 Fed. Reg. at 35,843**

WHAT'S NEXT?

LIKELY ISSUES TO BE LITIGATED

- Unlawful expansion of oil and natural gas "source category" in 2012 (OOOO)
- Insufficient "significant cause or contribute" finding related to methane (one of six GHGs) from this source category
- Separate endangerment finding (i.e., can't rely on *Mass v. EPA* and tailpipe finding of "six well mixed" GHGs)
- Cost/benefit analysis for methane arbitrary and capricious (SCC/SCM)
- Unlawfully regulates existing sources (e.g., broad definition of "modification" as affected sources)

FOR MORE INFORMATION:

ERIC WAECKERLIN

Partner

Email: epwaeckerlin@hollandhart.com

Phone: 303-295-8086