

UPDATES ON COLORADO'S CTG RULEMAKING, BLM VENTING AND FLARING RULE ROCKY MOUNTAIN EHS PEER GROUP

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Colorado's CTG Rulemaking

- Major components of the rule
- LDAR trends
- Pneumatics

BLM's Venting and Flaring Rule

- What's in effect?
- Where is this rule going and what are the implications for your company?



Control Technique Guidelines

– Section 182 of the federal CAA



- Issued by EPA in October 2016 for oil and natural gas sector
- Moderate and higher non-attainment area
 SIPs must include RACT for "each category of VOC sources" covered by a CTG
- Applies to <u>existing</u> sources



Control Technique Guidelines (cont.)

- Storage tanks
- Continuous bleed pneumatic controllers
- Natural gas driven diaphragm pneumatic pumps
- Centrifugal and reciprocating compressors
- Equipment fugitive leaks (LDAR)
- Also CTG recommendations for NGPs and Compressor Stations



Colorado's (likely) rule:

- State storage tank control requirements
 already = RACT or higher
- LDAR frequency (change from 15 BOE)
 - 1-6 tpy = Annual
 - 6-12 tpy = Semi-annual
 - > 12 tpy = Existing Reg 7
- Pneumatic pumps, controllers very similar to CTGs model language



LDAR "Diminishing Benefits"

* AN ECONOMIST GOES TO HEAVEN *





LDAR "Diminishing Benefits" Trends

- OGI pilot study and Colorado Reg 7 data since
 2014 → significant downward trend in facility leak
 rate % (~40% to well less than 10%)
- PAW data to WYDEQ show a "<u>near exponential</u> <u>decay of effectiveness</u>" from increased LDAR inspections
 - Annual ↓ emissions by 58.25 tpy
 - Semi-annual ↓ emissions by 64.22 tpy
 - Quarterly ↓ emissions by 68.73 tpy
 - Incremental costs:
 - Annual Semi-annual = \$14,397/ton
 - Semi-annual Quarterly = \$40,095/ton



LDAR "Diminishing Benefits" Trends

- ERM analysis of CTG proposal
 - Hourly contractor rate too low
 - Travel time too low
 - Follow-up trips must be accounted for (repair confirm repair)
 - Number of components needing repair too low
 - Incremental costs (over annual inspections)

- 1-12 tpy = \$6,300 tpy (NAA only)



LDAR "Diminishing Benefits" Trends

- Mobile source dis-benefits
 - More than 2 or 3 miles for second inspection = more VOC emitted than reduced
 - NOx not even considered

Conclusion: recent trends from LDAR programs are confirming the law of diminishing returns, lower leak rates, and much higher costs/ton of pollutant reduced



NGO's pneumatic controller proposal

- Zero bleeds (new and existing)
- Direct measurement of <u>all</u> continuous bleeds
- Re-scan of intermittents to determine proper operation
- PC emissions data are favorable in Rocky Mountains
 - 5x lower than national average (0.8 scf/h vs.
 5.5 scf.h)
 - Region-specific EF = \sim 1.26 scf/h/controller



PC data (cont.)

- Thoma/Uintah Basin EPA study:
 - Intermittent avg rate = 0.36 scf/h
 - Continuous avg rate = 1.1 scf/h
- Ft Worth study inconclusive re: "malfunctioning" devices

APCD proposal

- Limited "find and fix" program
- Task Force w/ EDF and other NGOs



Multiple moving parts

- DOI/BLM 3-step admin. process
- Wyoming fed district court litigation
- N.D. California litigation

Administrative

- 705 stay invalidated; rule is <u>IN EFFECT</u>!
- Proposed rule delaying all compliance deadlines published October 5, 2017
- Rule revising/rescinding VFR supposedly written





Wyoming litigation

- Industry brief filed October 2
- Responses due November 6
- Fully briefed by November 22
- DOJ may move for further extension

N.D. CA litigation

- 705 stay invalidated by Magistrate Judge LaPorte

"If some of the regulated entities of the oil and gas industry will not be able to meet the January 17, 2018 compliance date because they suspended compliance efforts after the District of Wyoming denied the preliminary injunction and the Bureau issued the Postponement Notice, that is a problem to some extent of their own making... As evidenced by its trade association's intervention in this case, the oil and gas industry was well aware that the Postponement Notice was potentially vulnerable to invalidation."



BLM VENTING AND FLARING



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THANK YOU!

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16 Training Materials Only - Not Intended as Legal Advice