Significant emission increases from oil and gas operations confirm need for stronger rules and enforcement, greater industry compliance

Leak rates in New Mexico’s Permian Basin increased 250% in 12 months

The U.S. Environmental Protection Agency (EPA), in conjunction with the New Mexico Environment Department (NMED), recently conducted helicopter flyovers of the Permian and San Juan Basins using forward-looking infrared (FLIR) technology to determine emissions trends in oil and gas operations. FLIR technology makes emissions from oil and natural gas visible to the naked eye. The video data collected during the flyovers document higher-than-expected leak rates from oil and gas equipment across both basins.

Leaks, which include methane and volatile organic compounds (VOCs) and other air pollutants, were observed from a variety of oil and gas equipment, including storage tanks and flares. The Permian Basin’s overall leak rate was 5%, an increase from a 2% leak rate observed during 2019 flyovers of the same area. In the San Juan Basin in northwest New Mexico, the leak rate was approximately 3%. The San Juan Basin was not included in 2019 flyover inspections.

The emissions, which mostly result from equipment failures and unaddressed leaks, documented during the flyovers in the Permian and San Juan Basins are significantly higher than those reported by industry and are in line with those identified by non-governmental organizations and academia. The disappointing findings come after 18 months of intensive and ongoing stakeholder discussions with the oil and natural gas industry on reducing methane and VOC emissions.

“It’s clear that voluntary emissions reductions measures undertaken by some operators are not enough to solve this problem. This is an undeniable call to action for our department to strengthen our draft ozone precursor rules and for every oil and natural gas operator with leaking equipment documented in these videos to immediately get emissions under control,” said NMED Cabinet Secretary James Kenney. “Ozone levels in the oil and gas regions of New Mexico are already
threatening our most vulnerable population’s ability to breathe, like children and the elderly, as well as those dealing with complications from COVID-19.”

While the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) is working to enact gas capture rules which will curb 98% of methane emissions from oil and gas operations, NMED is drafting proposed rules to reduce VOC emissions from the industry. NMED is required to regulate VOC emissions, but cannot legally regulate methane emissions under the state’s Air Quality Control Act. NMED’s revised proposed rules will be released in March of 2021. Upon implementation – and paired with compliance from operators - the EMNRD gas capture rules and the NMED ozone rules will result in substantial reductions in methane and VOC emissions from the oil and gas field.

All the FLIR video footage from the flyovers is available through the Department’s interactive methane map and on our YouTube channel. Data in the methane map includes the name of the operator and geographic location of the methane and VOC emissions.

NMED and EPA will continue to conduct flyover inspections and make the video data available to the public using the methane map, YouTube and social media platforms.

The U.S. EPA and NMED will commence civil enforcement proceedings in response to the video evidence obtained from the flyovers that depicts potential violations of existing rules and permits.

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