

NATIONAL O&G INVENTORY ANALYSIS: FINAL STATUS UPDATE

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STATUS – STUDY COMPLETE

- National Inventory Review
 - *Completed February 2017*
- Five Regional Basin Analyses
 - *Completed September 2017*
 - Summary recommendations/conclusions presented by basin in the slides below
- National and Regional Analysis Memoranda Posted Online
 - *<https://www.wrapair2.org/NatOilGas.aspx>*

ANADARKO BASIN (OKLAHOMA ONLY)

RECOMMENDATIONS/CONCLUSIONS

- Compared EPA O&G Tool and OKDEQ air quality database emissions estimates for O&G wells in the OKDEQ air quality database
 - Substantial differences expected
 - population of O&G wells included in the OKDEQ air quality database is different from O&G wells that are not in the OKDEQ air quality database
 - OKDEQ's provides example of how to use both data collected from facility-level reporting and the O&G Tool to estimate well-site emissions
- Tank flare capture efficiency sensitivity analysis
 - Flare capture efficiency can substantially impact VOC emissions
 - Flare capture efficiency currently estimated to be 100% for all counties in the nation in the EPA O&G Tool (version 1.5).
 - Recommendation: Further study to develop updated estimates of flare capture efficiency could enhance O&G emission inventory accuracy
- Emission magnitudes by control device type are in good agreement between the 2014 NEI and the OKDEQ air quality database

GREEN RIVER BASIN (WYOMING ONLY) RECOMMENDATIONS/CONCLUSIONS

- Emission inventory input factors based on the Subpart W estimates
 - Likely to be representative estimates IF:
 - Well site equipment configuration and operations for larger operators that report as part of Subpart W are similar to those of smaller, non-reporting operators.
- WYDEQ has performed extensive collection of extended gas analysis data
 - Used in emission inventory calculations
 - Used to develop SPECIATE profiles
- Future year forecast emission control factors
 - Reasonableness of emissions control factors should be evaluated so that future year emissions are not reduced below feasible levels of control
 - Especially for highly controlled source categories
 - Consultation with local agencies to ensure reasonableness recommended

MARCELLUS BASIN (PENNSYLVANIA ONLY) RECOMMENDATIONS/CONCLUSIONS

- VOC emission levels from abandoned O&G wells
 - Estimated annual PA state-wide VOC emissions from abandoned wells of
 - 6,400 to 11,000 tpy VOC
 - 6% to 10% of PA state-wide 2014 O&G VOC
 - VOC emission estimates can be developed for incorporation into the NEI based on Kang et al. (2016) with additional study:
 - Spatial distribution of abandoned wells by county
 - Abandoned well gas compositions

SAN JUAN BASIN (COLORADO & NEW MEXICO) RECOMMENDATIONS/CONCLUSIONS

- SUIT collects detailed O&G well-site emission inventory data
 - Recommendation: Modify the O&G Tool to accept tribe specific data for O&G activity, basin factors, speciation factors, and emission factors
- No new data available from BLM Farmington Field Office to update O&G Tool input factors
- Sufficient information not collected in Frankenberg et al. (2016) to update O&G VOC emissions

UTICA BASIN (OHIO ONLY)

RECOMMENDATIONS/CONCLUSIONS

- Missing gas gathering point source facility emissions
 - 213 tpy NO_x estimated to be missing
 - Recommendation: Add missing NO_x emissions from gas gathering compressor stations to the NEI for the Utica Basin (Ohio only) after addressing two items:
 - Further exploration of the reasons for differences in gas gathering compressor station NO_x emissions per unit of gas throughput between Utica Basin (Ohio only) and neighboring Pennsylvania counties
 - Confirm facility-level gas production throughput estimates with gas gathering companies
- To the extent feasible, more complete information on unit-level controls should be incorporated into future NEIs.

THANK YOU