Update on Action Plan to Improve Oil & Gas Emissions Inventories

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Oil & Gas Emissions
2008 NEI
EPA Needs to Improve Air Emissions Data for the Oil and Natural Gas Production Sector

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National Oil & Gas Emissions Committee

- Outgrowth from ERTAC area emissions process
- Meeting since late 2011
- Regular participation by EPA Offices, States & MJOs
- Technical advice as National Oil & Gas Area Emissions Tool was developed
- Share expertise and information on how to characterize and manage oil and gas emissions
EPA / States Oil & Gas Emissions Summit

- Held at EPA Offices, Research Triangle Park, NC
  November 4-5, 2014

- Attendees included staff & managers from:
  - Multiple EPA offices
  - States with a range of experience inventorying and regulating oil & gas emissions

- Presentations at
  http://www.epa.gov/ttn/chief/oilandgassummit/
Purposes of the Summit

- Share information on federal and state work on oil and gas emissions and discuss the relationship between high quality inventories, informed policy decisions, and effective regulations.

- Enhance communication and collaboration among state and federal regulatory agencies with a goal to better understand program processes, data collected, and regulatory and program limitations.

- Discuss and identify steps to further improve understanding of air impacts of oil and gas development.
Top Ranked Topics of Interest
Based on pre-summit survey of attendees

- Derive better activity and emissions data from industry
- Achieve a better understanding of data gaps
- Update outdated or inaccurate activity data and/or emission factors
- Realistically represent “fat-tail” upstream sources
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Summit Action Plan – Key Goals

- Review how mobile emissions are characterized
- Evaluate crosswalks between the Tool and the National GHG Inventory
- Encourage mining permits for data
- Prioritize Tool improvements for 2014 NEI
- Develop an information repository
- Use GHGRP calculations data to improve the Tool
- Work with industry to better understand current work practices and improve activity data
- Characterize heterogeneity in gas compositions
- Build capacity, reach out to states
Mobile Emissions

- Review how emissions from on-road and non-road engines at production sites are currently characterized.

- OTAQ and OAQPS agreed that for the 2014 NEI, Tool estimates will be used for drill-site equipment.

- How to account for construction and fluid-hauling traffic to and from well pads and seismology rigs?
  - Can be prominent in rural areas.

- Next steps: Establish what vehicle and traffic surveys have been completed or are planned, evaluate development of emissions equations for this source.

- Demonstrating reductions from nonroad engine fleet turnover may be important for future attainment plans.
Why Different GHG Numbers?

- Evaluate differences between the Tool and the National GHG Inventory

- OAQPS and OAP identified several issues:
  - Well counts
  - Liquids unloading
  - Equipment Leaks
  - Pneumatic Controllers

- Recently reported GHGRP calculations data will help improve both estimates
Mining Permit Data

- Is data “down the hall” that can be used to improve inventories?

- Translate permit information in way that it can be mapped and summarized for use in inventories

   - Example: Tribal Minor New Source Review Registrations
     - Work by Environ and by Region 8

- Next steps – develop a protocol to help states
Prioritize Tool Improvements

- States provided feedback on list of priorities

- Key improvements (April 2015 rollout)
  - Form development
  - Breakout conventional/unconventional wells
  - Module to better handle gas composition data

- Funds for future work unknown but likely to be limited
Develop an information repository for:

- Regulatory programs
- Training materials
- Funding opportunities
- Technical information
- Special project reports

Working with CIRA at CSU to develop a web site similar to the 3-State Data Warehouse

Links and disclaimers as appropriate

Rollout aimed for June 2015
Leverage GHGRP Data

- Use GHGRP activity and emissions calculations data to improve estimates for the 2014 NEI

- Companies had to report detailed supporting information for 2011 – 2014 by March 31, 2015 to the GHGRP

- Could potentially improve tool accuracy

- OAP to make available to OAQPS and states as soon as possible later this summer

- Data publically available in Fall 2015
Work with Industry

- Work with industry to better understand current work practices and improve activity data

- Identify best mechanisms to do this:
  - Individual operators
  - National organizations
  - Local organizations

- Panel discussion today

- How can industry help improve the tool?
Improve Gas Compositions

- Characterize spatial heterogeneity in gas compositions between and across basins
  - Key recommendation in API’s review of the Tool

- Recommend processes to obtain and map speciated data for each basin

- Develop a template to collect data

- Build on work being done by Region 8

- Expect to focus on this work in Summer 2015
Build Capacity

- Establish process for states with minimal resource capacity to be able to receive “one-on-one” assistance for 2014 NEI work

- Help them identify largest sources with most potential for improvement

- EPA Regional Office O&G contacts identified for most regions

- Make their states aware of resources available through the National Oil & Gas Emissions Committee
Oil & Gas Emissions in the 2014 NEI

- States can’t rely on defaults or 2011 numbers
- Limited resources -> focus on largest sources
- More granular, spatially accurate data -> more representative emission estimates
- Execution of the Summit Action Plan will lead to substantial improvements
- But what are the next steps beyond the 2014 NEI?
More Complete, Integrated Data

- Lower/remove barriers to unify all O&G data

- States, EPA & others can easily access same levels of complete and representative data at the formation level in each basin

- Tie in other information sources more directly – industry surveys and initiatives, BLM, EIA, O&G Commission data, etc.

- Account for super emitters vs. “regular” emissions

- Account for differences in the midstream “plumbing” of basins
Projecting Future O&G Emissions

- Develop defensible methods for agencies to use for air quality planning and management

- At the formation level in each basin, across exploration & production

- With respect to current and changing future practices integrate:
  - Existing reservoir decline curves vs. new formations & production methods
  - Expectations for future production
  - Commodity prices
  - Commodity distribution and waste/by-product mgmt. systems
  - Episodic and regular practices
  - Evolution in source type distributions and regulations
National Oil & Gas Emissions Committee

- Participants from EPA Offices, MJO’s, States, Locals

- Calls are at 2 PM Eastern on Second Thursday of each month

- Email mark.gibbs@deq.ok.gov to be added to the mailing list