

Southern Ute Indian Tribe 2015 Comprehensive Emissions Inventory

Four Corners Air Quality Group Meeting, December 1, 2016



Presented by:
Danny Powers
Air Quality
Technical
Manager



Goals of Calendar Year 2015 Comprehensive Emissions Inventory

- ▶ Estimate emissions of criteria pollutants, hazardous air pollutants (HAPs) and greenhouse gas (GHG) from all quantifiable activities on the Reservation for calendar year 2015
 - ▶ Emphasis on oil and gas emissions
- ▶ EPA Level II Inventory - Based on guidance provided by the EPA Emission Inventory Improvement Program
 - ▶ Specific data quality objectives for accuracy, completeness, representativeness, and comparability
 - ▶ Utilize measured data when available and reputable data sources when measured data not available
- ▶ Submittal of the emissions inventory to the EPA National Emission Inventory database

Emission Sources Included



- ▶ Oil and gas sources
 - ▶ Title V sources
 - ▶ Minor sources
 - ▶ Small, unpermitted sources
- ▶ Other Point and Non-point sources
 - ▶ Mobile
 - ▶ Landfills
 - ▶ Gravel Pits
 - ▶ Residential Heating
 - ▶ Airports
 - ▶ Gas Stations
 - ▶ Wildfires
 - ▶ Biogenic
 - ▶ Agricultural Burning



Why an Emphasis on Oil and Gas Emissions?



- ▶ The largest industry on the Reservation
- ▶ No previous emissions inventories of oil and gas activities on the Reservation used measured data and actual equipment counts
- ▶ Direct participation from industry expected to enhance accuracy of 2015 emissions inventory
- ▶ To establish an accurate baseline oil and gas inventory for air quality planning purposes, including regulatory development, environmental assessments, emissions modeling and Tribal Implementation Plans

Utilization of Measured Data



▶ Inventory based on measured data specific to SUIT Reservation

- ▶ Produced Water and Condensate Flash Liberation Sampling data collected in September 2016 (ratios of gas to water, gas to condensate)
- ▶ Averaged extended natural gas analysis
- ▶ Reported production data from Colorado Oil and Gas Conservation Commission
- ▶ Actual equipment and activity counts from an information collection request



Oil and Gas Information Collection Request (ICR)



- ▶ An ICR was sent to all known operators on the Reservation on June 14th, 2016
- ▶ Issued under the Tribe's Clean Air Act Section 114 information collection request authority
- ▶ Microsoft Excel based
- ▶ 80-day return deadline
- ▶ Developed to be simple and yet collect the information necessary to calculate emissions



What Sources Were Subject to the Information Request?

The following oil and gas sources operating within the exterior boundaries of the Reservation:

- ▶ **Non-registered sources:** an oil and gas source with emissions below the thresholds that require registration under the Tribal Minor New Source Review (TMNSR) Program at 40 CFR Part 49.
- ▶ **Registered sources:** sources with emissions equal to or greater than the thresholds that require registration under the TMNSR program.
- ▶ **TMNSR emissions thresholds:**
 - 10 tpy NO_x, CO, SO₂, PM
 - 5 tpy VOC, PM₁₀

Summary of Information Requested for Non-registered Sources



- ▶ Total Reservation-wide equipment counts for engines, dehydration units, heaters, boilers, tanks, and fugitive emissions components (not by source location)
- ▶ Number and duration of activities including compressor and pipeline blowdowns, and well completion/re-completion venting
- ▶ Typical well-site configuration information based on the number of co-located wells (not specific to production type)
- ▶ Assumed values provided in ICR for various data values, equipment, activities, and production types
 - ▶ Operators provided opportunity to override assumed values with information more representative of their operations.

Summary of Information Requested for Registered Sources



- ▶ AQP sent each operator a list of their company's most current information from the EPA TMNSR registration for reconciliation and updating
- ▶ Information requested on an emission unit basis
- ▶ Additional information requested for exempt emission units and pollutants:
 - ▶ Engines < 50 hp
 - ▶ Heaters <10 MMBtu/hr
 - ▶ HAP emissions
 - ▶ GHG emissions

Summary of ICR Return Rate



- ▶ ICR sent to 40 owner/operators
- ▶ 35 ICRs returned: 87.5% Return rate
 - ▶ Nonregistered Sources: 98% of 2569 known sources
 - ▶ Registered Sources: 99% of 240 sources registered with EPA

Emissions Calculation Methods



▶ Oil and Gas

- ▶ Title V, synthetic minor, and registered minor sources emissions directly from operator reported data
- ▶ Non-registered oil and gas emissions calculated using AQP's Microsoft Excel based emission calculators and measured and reported data
- ▶ Emission estimation software including EPA Tanks 4.09d and GRIGLYCalc

▶ Point and Non-Point Sources

- ▶ Emissions calculated using the appropriate emission estimation software or reputable emission factors and calculation methodologies
- ▶ AQP scaled down emissions reported to 2014 NEI for La Plata and Archuleta counties to only include emissions on the Reservation

Quality Assurance Review



- ▶ Emissions Inventory validation by third party contractor, including:
 - ▶ Development of Quality Assurance Plan
 - ▶ Review of all data, data sources, engineering assumptions, emission factors, emission calculations, and final report
 - ▶ Advise AQP of deficiencies and recommended corrective mechanisms
 - ▶ Prepare QA/QC Report summarizing results of review to validate accuracy of emissions inventory
 - ▶ Review completed November 2016

Emission Inventory Completion Dates



- ▶ **December 2016**
 - Address changes suggested by third-party quality assurance review

- ▶ **January 2017**
 - Emissions Reported to National Emissions Inventory (NEI) Database

- ▶ **July 2017**
 - NEI data available to the public

- ▶ **August/September 2017**
 - Final Report available to public on Air Quality Program webpage

<http://www.southernute-nsn.gov/environmental-programs/air-quality/>

For questions regarding the 2015 Comprehensive Emissions Inventory, please contact:



Oil and Gas
Emissions

Oakley Hayes

Air Quality Scientist

(970) 563-2244

ohayes@southernute-nsn.gov

Non-point Source
Emissions

Matt Wampler

Air Quality Analyst

(970) 563-2202

mwampler@southernute-nsn.gov

Final Report

Danny Powers

Air Quality Technical
Manager

(970) 563-2265

dpowers@southernute-nsn.gov