Permitting and Compliance for the Oil and Gas Industry in North Dakota

EPA/States
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Division of Air Quality
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Discussion Objectives:

- Oil and Gas Development in ND
- Challenges
- Future plans, needs, concerns
Rapid Development of the Bakken
-- Steep learning/growth curve --

- Significant development began around 2004-2006 – now is maturing with ^ 2000 new wells/yr.

- Lack of infrastructure – electricity, collection piping, people, housing, etc.

- Production reached 1 million BOPD by early 2014; ND is #2 in oil production.
Oil & Gas Production:

- Compressor stations and gas plants
- Crude oil facilities
- Diesel topping refineries – on/off reservation
- $3 billion fertilizer plant - permitted
- $4 billion plastics plant - proposed
Air Quality Well Permit Registrations

Well Registrations

Year

2001 2003 2005 2007 2009 2011 2013 est. 2015
Enforcement

- Thousand Dollars
- Number of Enforcement Cases

2011: $500
2012: $500
2013: $6000

Penalties Collected:
- 2011: $0
- 2012: $0
- 2013: $6000

# of Cases:
- 2011: 5
- 2012: 3
- 2013: 50
Well pads have changed

Multi well pads are being constructed – good for the environment but may reach T5 status
Regulatory Actions taken in AQ:

- State Rules, NSPS, Major/Minor Source Permitting

- Bakken Guidance issued 2011 – Required “best available” APC at wells and resulted in significant VOC emission reductions.

- Bakken Guidance is based on ND APCR 33-15-07

- Guidance was used by EPA for R8 FIP on Fort Berthold Reservation
NORTH DAKOTA
POINT SOURCE
$SO_2$ EMISSIONS

Note: 2013 Emissions Are Estimated Values

Oil and gas estimate for SO2

TOTAL
OIL & GAS
OTHER PT. SOURCES
UTILITY BOILERS
NOX emission inventory from oil and gas

Note: 2013 Emissions Are Estimated Values
Positives:

• Ambient Standards consistently maintained
• No/little \( \text{H}_2\text{S} \) in Bakken Gas
• Emission trending down from other industry in State (coal)
• Excellent relationship with R8 compliance and enforcement:
  • Combined to conduct inspections
  • Shared inspection information, findings, and techniques for on/off state/reservation lands
  • Obtaining our first FLIR camera via EPA grant
Negatives:

- As an agency, our strength has been dealing with major source permitting and compliance of a smaller number of large emitting sources – we have excellent tracking/compliance tools.
- Conversely, this new development is a large number of small sources
- Time and Turnover – agency and industry
- Flaring
Flaring:

- Flaring was high due to a number of factors – including high surge of gas followed by steep decline, lack of infrastructure, size of the Bakken, pace of development, and oil was focus.

- New flaring regulations imposed by NDIC – major reductions required
Current Program Challenges

- Large national issues - 111(d), RH, new ambient standards, new regulations.
- Issues associated with rapid growth of Oil and Gas industry and the tertiary growth that is occurring in ND
- Public outreach/interest/complaints

*In general, the above often don’t line up well which can result in time problems due to limited staff.*
Future:

- Increase staff – conduct more inspections
- Continue to work collaboratively with EPA R8
- Develop our FLIR Program
- Expect new large sources to utilize natural gas that was previously flared – more permitting, inspections, etc.
- Continue to closely monitor our ambient results
- Use better emission inventories to determine if/what new requirements are needed for oil wells
Questions?