How Will NAQSAT Be Used in Pennsylvania?
May 5, 2016

Why NAQSAT?

• No other NRCS-approved tool to use for evaluating air quality resource concerns from confinement-based livestock operations

• NAQSAT was developed for NRCS via 2 national CIG projects
  – Success story! – We have CIG results we can use
Why NAQSAT?

• NRCS National Instructions 190-309 (July 2015)
  – Use NAQSAT for assisting in resource concern identification and conservation planning efforts for confinement-based livestock and poultry operations
  – By the end of CY15, NAQSAT use is required for all new NRCS assistance requests at these operations with a maximum capacity of >=300 animal units for applicable species

Where Does NAQSAT Fit In?

• Assist in air quality resource concern identification and conservation planning efforts for confinement-based livestock and poultry operations
  – Identify areas at these operations where there are opportunities to make changes that result in reduced air emissions
• REMEMBER – NAQSAT is just a tool for resources assessment to help meet clients’ objectives
When to Use NAQSAT

- Possibility of an air quality resource concern
  - Producer concern or interest
  - Local data/history of issues
    - Nonattainment, odor/dust complaints, local regulations, etc.
- Developing a CNMP

New CNMP Policy

- General Manual 190-405 was updated in October 2015
  - Air quality is one of three resource concerns to be addressed at a minimum (along with soil erosion and water quality)
  - No further guidance on how to address air quality, other than achieve planning criteria in the NPPH
NAQSAT and CNMP

• NAQSAT covers the primary nutrient flows at confinement-based livestock and poultry operations
• NAQSAT can identify areas for further analysis
• NAQSAT will not give you the final answer, but can point you in the right direction

Using NAQSAT Results in Planning

• Identify opportunities and problems
• Develop appropriate alternatives
• Understanding solutions
• Support decisions
Using NAQSAT Results – Where Do We Start?

- Look at each AQ resource concern
  - Emissions of Particulate Matter (PM) and PM Precursors
  - Emissions of Ozone Precursors
  - Objectionable Odors
  - Emissions of Greenhouse Gases

  - Some may be more important for your site than others

Particulate Matter Resource Concern

- Focus on score bars for:
  - Particulate matter
  - Ammonia
Particulate Matter

- Focus on score bars for:
  - Animals and Housing
  - Onfarm Roads
  - Manure Storage – if dry manure is managed
  - Land Application – if dry manure is managed
  - Feed and Water – if dry feed ingredients are stored or mixed onsite

Ammonia

- Focus on score bars for:
  - Feed and Water
  - Manure Storage
  - Land Application
  - Animals and Housing
  - Collection and Transfer
Particulate Matter Resource Concern

Ozone Precursors Resource Concern

- Focus on score bar for:
  - Volatile organic compounds
Volatile Organic Compounds

- Focus on score bars for:
  - Manure Storage
  - Feed and Water
  - Animals and Housing

Ozone Precursors Resource Concern
Odors Resource Concern

- Focus on score bars for:
  - Odor
  - Volatile organic compounds
  - Hydrogen sulfide
  - Ammonia

Odor

- Focus on score bars for:
  - Mortalities
  - Manure Storage
  - Feed and Water
- Likely also:
  - Land Application
  - Animals and Housing
Volatile Organic Compounds
• Focus on score bars for:
  – Manure Storage
  – Feed and Water
  – Animals and Housing

Hydrogen Sulfide
• Focus on score bars for:
  – Manure Storage
  – Feed and Water

Ammonia
• Focus on score bars for:
  – Feed and Water
  – Manure Storage
  – Land Application
  – Animals and Housing
  – Collection and Transfer
Odors Resource Concern

GHG Resource Concern

- Focus on score bars for:
  - Methane
  - Nitrous oxide
Methane
• Focus on score bars for:
  – Manure Storage
  – Feed and Water

Nitrous Oxide
• Focus on score bars for:
  – Feed and Water
  – Manure Storage
  – Land Application

GHG Resource Concern
Implementing Practices

• What practices apply?
  – See NRCS National Air Quality Initiative matrix for overall list of practices with air quality purposes
  – A smaller subset are specific to confinement-based livestock and poultry systems

NAQI Practices

• Air Filtration and Scrubbing (372)
• Amendments for Treatment of Agricultural Waste (591)
• Anaerobic Digester (366)
• Animal Mortality Facility (316)
• Composting Facility (317)
• Dust Control from Animal Operations on Open Lot Surfaces (375)
• Dust Control on Unpaved Roads and Surfaces (373)
NAQI Practices

- Feed Management (592)
- Heavy Use Area Protection (561)
- Nutrient Management (590)
- Roofs and Covers (367)
- Waste Separation Facility (632)
- Waste Treatment (629)
- Waste Treatment Lagoon (359)
- Windbreak/Shelterbelt Establishment (380)
- Windbreak/Shelterbelt Renovation (650)

Questions?

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