An Overview of Air Quality Permitting in North Carolina
Goals for Today’s Presentation...

1. Review Permit Types
2. Examine Permit Process
3. Explore Engagement with the Permitting Process
What is an air quality permit?

An air quality permit contains:

- Information on the facility's regulated pollutants & applicable standards
- Necessary actions to ensure compliance
- Monitoring, reporting, and calculation requirements

Air quality permits are issued prior to construction, modification, or operation of a qualifying source of pollution.
In North Carolina, the N.C. Division of Air Quality (DAQ) is responsible for air quality permits for qualifying sources of air pollution. Each facility must also adhere to any applicable Federal air quality standards/programs.

All facilities are assessed on a case-by-case basis.

A permit may be needed for:

- Construction of greenfield facility with no existing permit
- Modification of emission source/control at permitted facility
- Renewal (with or without modification)
- Name/Ownership change
- Administrative amendment

The three broad permit classifications are

(1) Title V Permit
(2) Synthetic Minor Permit
(3) Small Permit
Air Quality Permitting Application Process

1. Facility identifies regulated emission sources and requirements/exemptions; submits appropriate permit application forms for review (see NC DEQ’s application matrix)
2. DEQ officer(s) review process rates and emission factors
3. Calculate expected emissions; determine permit classification (Small, Synthetic Minor, Title V)
4. Determine applicable rules and regulations (both federal and state)
5. Draft enforceable permit requirements based on the applicable rules and regulations
6. Public review process/review of public comments (if required)
   1. Pursuant to 15A NCAC 02Q .0306 - Permits Requiring Public Participation
7. Edits to draft permit (if required)
8. Final action, including issuance of the permit
I. Permitting Rules & Statutory Authority
State & local permitting authorities establish Title V programs based on 40 CFR Part 70, consistent with the requirements of Title V of the Clean Air Act.
NCAC Title 15A

Subchapter 2Q: Air Quality Permit Procedures

Establishes the procedures and guidelines for state implementation of the federally mandated permitting program. This subchapter is procedural and does not establish specific air quality standards.

Subchapter 2D: Air Pollution Control Requirements

Outlines regulated air pollution sources, specific air quality standards, and monitoring and control requirements.
II. Federal Standards /
Programs
A facility must comply with all applicable federal standards in addition to the requirements of its air permit. Federal standards apply to a wide variety of source categories (industrial/chemical processes, waste management, fossil fuel generation, etc.) and may impose more stringent pollution control requirements for a qualifying facility. Exempted emission sources are still subject to any relevant Federal standards and may have compliance obligations not listed on a permit.

**National Emission Standards for Hazardous Air Pollutants (NESHAP) - 40 CFR Part 63**

NESHAP applies to a published list of industrial sources, and it requires the use of technology-based emission standards:
- MACT or GACT

**Maximum Achievable Control Technology (MACT)**

**Generally Available Control Technology (GACT)**
New Source Review (NSR) Program
Preconstruction permitting for new major sources or new major modifications at existing sources. The **two types** of NSR permits, both of which offer opportunities for public involvement, are:

**Prevention of Significant Deterioration** and **Nonattainment NSR**

- **Prevention of Significant Deterioration (PSD)**
  - Applies to attainment areas
  - PSD Standards/Rules: **Best Available Control Technology (BACT)**

- **Major NSR in Nonattainment Areas (NAA NSR)**
  - Applies to non-attainment areas
  - NAA NSR Standards/Rules: **Lowest Achievable Emissions Rate (LAER)**
NSPS apply to new, modified, and reconstructed facilities in a published list of specific source categories.

Examples include:
• Manufacturers of glass, cement, rubber tires, wool fiberglass
• Engines and generators
• Boilers
• Hot-mix asphalt plants
• Steel plants

NSPS are similar to NESHAPs, with the additional requirement of testing to demonstrate compliance.
This rule applies to facilities that pose especially high risk from accidental releases (e.g., chemical manufacturing facilities)

Qualifying facilities shall submit a risk management plan, including:
- Hazard assessment
- Accident prevention program
- Emergency response program

North Carolina’s Risk Management Program rule, established in 15A NCAC 2D .2100, is based on the federal requirements of Clean Air Act Section 112(r).
III.

Title V Permits
Title V applicability is based on the potential emissions of a facility.

Title V permits apply to major sources of pollution. A facility is classified as a major source if it has potential emissions of any one of the following:

- 100 tons per year or more of at least one regulated air pollutant
- 10 tons per year or more of at least one hazardous air pollutant (HAP)
- 25 tons per year or more of any combination of HAPs

15A NCAC 02Q .0500 - Title V Procedures

Title V (Major Source) Emission Thresholds

- Lower threshold for Title V permit
Grady-White Boats, Inc. (Boat Manufacturing)
Air Quality Permit No. 05630T14

Fee Class: Title V
PSD Class: Minor

This facility classifies as Title V due to HAP emissions in excess of major source thresholds, and is subject to MACT Subparts VVVV and ZZZZ, respectively.

This facility is subject to two PSD/NSR avoidance conditions, which limit emissions of VOC and NOx to 250 tons per year.

This facility is not subject to New Source Performance Standards (NSPS) standards.
IV. Synthetic Minor Permits
A **synthetic minor facility** has (pre-control) potential emissions in excess of the “major source” threshold, but accepts federally-enforceable physical and/or operational limitations that keep emission levels below major source thresholds.

Enforceable limitations can include air pollution control equipment, restrictions on operation hours, and specific instructions regarding how to handle certain materials/processes.

**15A NCAC 2Q .0315** - “Synthetic Minor Facilities”
Smithfield Fresh Meats Corp
Air Permit No. 03034R34
Class: Synthetic Minor
➢ Includes a boiler plant, rendering operation, meat processing plant, and wastewater treatment
Authorized sources:
➢ 18 total air emission sources and/or air cleaning devices
Applicable Federal rules
➢ NSPS (40 CFR 60) - subpart IIII
➢ NESHAP (40 CFR 63) - subpart ZZZZ and JJJJJJ
➢ Also subject to CAA, section 112(r) (Risk Management Program)
Limits to avoid Title V (15A NCAC 2Q .0501)
➢ PM10 - 100 ton emission limit
➢ SO2 - 100 ton emission limit
➢ VOC - 100 ton emission limit
➢ CO - 100 ton emission limit
Limits to avoid PSD applicability (15A NCAC 2D .0530; 2Q .0317)
➢ PM10 - 250 ton emission limit
➢ VOC - 250 ton emission limit
➢ CO - 250 ton emission limit
V.
Small Permits
A small facility has no potential to exceed the major source emission thresholds, and may be exempt from obtaining an air quality permit if it satisfies the respective criteria for either registration or exemption.

A small facility can have (1) an air quality permit, (2) registration, or (3) exemption.

If eligible for either, the facility can choose to keep or rescind its air quality permit.
REGISTRATION (small sources)
15A NCAC 02Q .0102(e); 15A NCAC 02D .0202
➢ Emissions are ≥ 5 tons for any pollutant and < 25 tons for all pollutants.
➢ Registration process is simpler than the permitting process
➢ Still subject to inspection and all applicable emission standards

EXEMPTION (very small sources)
15A NCAC 02Q .0102(d)
➢ Emissions are < 5 tons for each pollutant and < 10 tons for all pollutants.
➢ Exempt facilities do not have permit requirements, but emission standards still apply
Ajinomoto – Wake County
Small Facility

Permitted Emission Sources
1. Four Fermenters
2. Five Process Tanks
3. Four Natural Gas-Fired Boilers
   Heat inputs:
   24.4 MMBtu/hr
   33.5 MMBtu/hr - 2 boilers, (1 NSPS DC)
   78.5 MMBtu/hr (NSPS DC)

Insignificant / Exempt Sources
1. Two Diesel-Fired Pumps (175 & 61 hp)
   MACT Subpart ZZZZ
2. One Natural Gas-Fired Generator (80kW)
   MACT Subpart ZZZZ
Numerous small storage/process tanks

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<tr>
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Title V facilities & qualifying non-major sources involve public participation—meaning the public can submit comments in response to the permit, or request a public hearing on the draft permit.

1. “Notice of Intent to Permit” is provided to the public, inviting interested persons to submit written comments or request a public hearing.

2. The public comment period then remains open for 30 days.

3. Written public comments or requests for public hearing should be addressed to the facility’s DAQ Engineer, or addressed to daq.publiccomments@ncdenr.gov.
What to Consider When Creating Public Comments

- Reviewing Permit Type
  - Does the draft permit meet the statutory requirements to be classified as a small, synthetic minor, or Title V permit?
    - Are there areas of ambiguity?
- Is monitoring/record keeping/reporting sufficient to ensure compliance with all necessary statutory requirements?
- Are there relevant studies/best practices to incorporate?
  - Are there cases in other states or regions where a permit is substantially different?
    - Are the regulations in these states/regions comparable to those here in NC?
- How does this permit compare/contrast to other permits from similar industrial facility types?
- Are there external factors that could influence emission levels?
- Is there publicly available information relevant to a draft permit that has not been incorporated into the application?
Questions…?