



pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

BAQ-GPA/GP-5 Implementation: Application Issues

Bureau of Air Quality

July 22, 2015

Tom Wolf, Governor

John Quigley, Secretary

Application Issues

- Applications may be considered to be administratively and/or technically deficient.
- Administrative deficiencies occur when required items to form a complete submittal are either missing or incomplete.
- Technical deficiencies occur when submitted information is considered insufficient to justify authorization to use the GP-5.

Typical Administrative Deficiencies

- Missing or Incomplete Application Forms.
- Pennsylvania Natural Diversity Inventory (PNDI).
- Municipal Notifications and Proof of Submittal.
- General Permit Fees.

Missing or Incomplete Application Forms

- All sections completed and boxes checked
 - Dates of manufacture and installation (including prior installation for engines).
 - List of all sources in Section H.
 - All applicable Federal Rules checked.

▶ Pennsylvania Natural Diversity Index

- PNDI required for new GP-5 facilities
 - An unusual requirement for an air quality authorization so it is sometimes overlooked.
 - Is required by No. 24 of the instructions and checkbox on page 2 of the application form.
 - The review receipt is required and must be signed.
 - Clearance letters are not required to review but are required before authorization if there is a potential impact.

Municipal Notifications and Proof of Submittal

- Authorization cannot be granted without both notification letters and proof of submittal.
- Notification
 - Letters to both the municipality and county.
 - Must re-notify if revisions to the application affect the proposed sources or modification.
- Proof of submittal
 - Receipt from delivery service that the notification was delivered.

General Permit Fees

- New air contamination sources or air cleaning devices require both the general plan approval fee of \$1,700 and general permit fee of \$375.
- General plan approval fee of \$1,700 applies for any application which adds new air contamination sources or air cleaning devices.
- General permit fee of \$375 applies for any application which grants a 5-year operating term.

Technical Deficiencies

- Emission Calculations
- Fractional Gas Analysis
- Engines and Controls
- Turbines and Controls
- Dehydrator and Controls
- Storage Tanks
- Other Sources
- Single-Facility Determination (Attachment-A)

Emission Calculations

- Calculations must represent potential to emit (PTE) for each source and the facility
 - PTE is calculated using enforceable limits at 8,760 hours, maximum load, maximum throughput, etc.
 - PTE must be supported with calculations and vendor data as applicable.
 - PTE for the facility must include sources on site, including those not directly authorized under GP-5.
- GP-5 is a synthetic minor permit and actual emissions for the facility are limited not to exceed GP-5 Section A Condition 9(c)
 - If calculated PTE exceeds Condition 9(c), the method of compliance with Condition 9(c) must be supported.

Fractional Gas Analysis

- Fractional gas analysis is necessary to support emission calculations for nearly all sources including engines, dehydrators, equipment leaks, blowdowns, and storage tanks.
- Existing facilities should provide an actual gas analysis from the inlet to the facility.
- Consistently apply the gas analysis to each source as applicable.

Engines and Controls

- The dates of engine manufacture, construction, and installation are necessary to determine 40 CFR Part 60 Subpart JJJJ and 40 CFR Part 63 Subpart ZZZZ applicability requirements.
- Provide supporting information for engines previously installed at another location.
- Calculations must be supported by manufacturer's performance data sheet and guarantee for controls.

Turbines and Controls

- PTE must be evaluated at maximum capacity unless the turbine is physically de-rated.
- Site specific physical operating conditions (i.e. annual average temperature) affects the rating and may affect the size category and applicable limitations.
- Calculations must be supported by manufacturer's performance data sheet and guarantee for controls.

Dehydrators and Controls

- New dehydrators must be controlled by at least 95% if uncontrolled PTE exceeds 5 tpy.
 - The still vent and flash tank must each be controlled at this level.
 - Claimed control efficiencies must be supported (including manufacturer documentation that 95% can be achieved when routing emissions to the reboiler burner.
 - PTE is calculated at the enforceable 95% control efficiency.
- The gas analysis input for dehydrator calculations must be consistent with other sources.

Dehydrators and Controls (Continued)

- Applicability of 40 CFR Part 63 Subpart HH requirements
 - All dehydrators are subject to Subpart HH.
 - Low benzene emissions or flow rates subject dehydrators to limited requirements.
 - Records must be maintained to support the actual benzene rate or flow rate.
 - The benzene rate must be determined using specified methods (GRI-GLYCalc or direct measurement).

Storage Tanks

- Storage tank contents must be identified.
 - Condensate, produced water, oil, etc.
 - Existing facilities should include an actual liquids analysis.
- Tank contents vapor pressure must be included for 25 Pa. Code §129.57 applicability.
 - Support the vapor pressure.
 - Vapor pressure should be consistent with the value use for emission calculations.

Storage Tanks (Continued)

- Applicability of 40 CFR Part 60, Subpart OOOO requirements
 - Applies to each storage vessel with potential VOC emissions ≥ 6 tpy.
 - If utilizing a VRU to reduce potential VOC below 6 tpy; you must still comply with Subpart OOOO qualifiers including cover, closed vent, and record requirements.

Single Facility Determination

- Emissions from blowdowns, start-up, shut-down, liquid load out, pigging operations, pipeline purging/venting.
- Wellheads and associated equipment or other source determined to be a single facility through a determination. (Attachment-A)
- Any source at the facility not specifically covered under GP-5.

Single Facility Determination (Attachment A)

- GP-5 Attachment-A requires a map of nearby facilities under common control and then answers to questions in the context of facilities under common control.
- Property boundary distances should be supported using the map where applicable.
- Common control, or the lack of, for nearby facilities is not always apparent and may require supporting information.

Miscellaneous

- Project Narrative
- Application Conformation
- Regulatory Applicability Analysis
- Previously Established Best Available Technology (BAT)
- Transfers and Modifications

Project Narrative

- While not requested in the application form or instructions, a detailed project narrative can speed the review process and answer questions the Department may have for the application. This is particularly helpful for uncommon configurations or processes.

Application Conformance

- The Owner/Operator is required to comply with the specifications in the application under GP-5 Section A Condition 9(a).

Regulatory Applicability Analysis

- While not specifically requested in the application form or instructions, a detailed regulatory applicability analysis will speed up application processing. This analysis should state and support what regulations do apply and/or why the facility is exempt from certain requirements.

Previously Established BAT

- The Owner/Operator must comply with BAT and emission limitations previously established (for this facility/sources) through the air quality permitting process under Section A Condition 19(a).
- Previously established BAT will be detailed in the application review memorandum and GP-5 authorization cover letter to the Owner/Operator.

Transfers and Modifications

- A GP-5 authorization may not be transferred to another Owner/Operator. The new Owner/Operator must apply for a new GP-5 authorization for a 5-year term. The general operating permit application fee would be \$375 fee.
- A GP-5 authorization may not be modified. A new GP-5 application is required with a general plan approval fee of \$1,700 fee for changes to an air contamination source. A \$375 fee would be required if a new 5-year term is desired for the general operating permit.



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

Questions?



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

Devin Tomko
Air Quality Engineering Specialist
Bureau of Air Quality, SWRO

dtomko@pa.gov

412-442-5231