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DEPARTMENT OF ENVIRONMENTAL PROTECTION



# **Category No. 38 Exemption Criteria, General Permit 5, and Single Source Determination Webinar**

**BUREAU OF AIR QUALITY &  
OFFICE OF CHIEF COUNSEL**

**PA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**AUGUST 12, 2015**

Tom Wolf, Governor

John Quigley, Secretary



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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

- Overview and Implementation of Category No. 38 Exemption Criteria
- Overview of BAQ-GPA/GP-5 Conditions and Implementation Requirements
- Overview of Single Source Determination
- Questions at the end



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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

# Overview and Implementation of Category No. 38 Exemption Criteria

**BUREAU OF AIR QUALITY**  
**PA DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**NAISHADH BHATT**  
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## Category No. 38 Exemption Criteria

On August 10, 2013, DEP issued final permit exemption criteria for the following:

- conventional wells;
- unconventional wells;
- wellheads; and
- all other associated equipment such as non-road engines, storage vessels/tanks, and flaring activities.

## Category No. 38 Exemption Criteria

The owner or operator of conventional wells, exploratory wells, wildcat wells, or delineation wells are not required to submit any Compliance Demonstration Report to the Department. However, the owner or operator must comply with all applicable requirements including 40 CFR Part 60, Subpart 0000 requirements.

## Category No. 38 Exemption Criteria

- Sources located at the natural gas well sites are exempt from permitting requirements only if the owner or operator meets all applicable requirements established in the Category No. 38 Exemption Criteria.
- While a source may be exempt from permitting requirements, the owner or operator of the source must still comply with all applicable federal and state laws and regulations.

## Category No. 38 Exemption Criteria

- The owner or operator of sources not meeting the Category No. 38 exemption criteria may submit a Request for Determination (RFD) Form or Plan Approval Application to the appropriate DEP Regional Program Manager.

# Category No. 38 Exemption Criteria

Sources	Exemption Eligibility Criteria
Flowback	<ul style="list-style-type: none"> <li>Reduced Emission Completions (Green Completions) are required under 40 CFR Part 60, Subpart OOOO.</li> </ul>
Fugitive Leaks	<ul style="list-style-type: none"> <li>The entire well pad/facility is subject to a leak detection and repair (LDAR) program using a FLIR camera or other DEP- approved detection devices.</li> <li>Initial inspection within 60 days after a well is put into production.</li> <li>LDAR inspections must be conducted annually thereafter.</li> <li>Leaks must be repaired within 15 day unless the facility shutdowns or ordering of replacement parts are necessary for repair of the leaks.</li> <li>Leaks are considered repaired using either of the following criteria:               <ul style="list-style-type: none"> <li>-the methane (CH<sub>4</sub>) concentration is 2.5% or less and a VOC concentration of 500 PPM or less;</li> <li>--no visible leak is detected using an optical imaging camera; or</li> <li>--other DEP-approved detection methods.</li> </ul> </li> </ul>



# Category No. 38 Exemption Criteria

Sources	Exemption Eligibility Criteria
Storage Tanks/Storage Vessels or other Equipment (e.g. truck load-out)	<ul style="list-style-type: none"> <li>• Limit facility wide total VOC emissions to less than 2.7 tons per year.</li> <li>• If not, install controls capable of achieving VOC emission reduction of 95% or greater.</li> <li>• Owners or operators of storage tanks/storage vessels must comply with the Subpart OOOO requirements.</li> </ul>
Non-road Engines	<ul style="list-style-type: none"> <li>• Non-road engines are subject to the Tier 1-Tier 4 requirements specified in 40 CFR Part 89.</li> </ul>
Flaring Activities	<ul style="list-style-type: none"> <li>• Enclosed combustion device including an enclosed flare must be used for all permanent flaring operations.</li> <li>• Flaring operations must be designed and operated in accordance with 40 CFR § 60.18.</li> </ul>
Stationary IC Engines	<ul style="list-style-type: none"> <li>• Combined facility NOx emissions must be less than 100 lbs/hr, 1000 lbs/day, 2.75 tons per ozone season, and 6.6 tons per year on a 12-month rolling basis.</li> </ul>

# Compliance Demonstrations

- The owner or operator is required to demonstrate compliance with all Category No. 38 Exemption Criteria using any generally accepted model or calculation methodology by submitting a Compliance Demonstration Report (CDR) to the Department.
- The CDR must be submitted to the appropriate DEP Regional Office within 180 days after the “well completion” (as defined in 40 CFR § 60.5430) or installation of an air contamination source.

# Emission Inventory Submittals

- By March 1st of each year, an owner or operator must submit a source report for the previous calendar year for Pennsylvania's annual emissions inventory.
- The source report shall include emissions from all sources at unconventional natural gas well sites during the preceding calendar year. The emissions from leaks including methane emissions must also be included in the report.

## Category No. 38 Compliance Demonstration Criteria

Exemption Criteria	Compliance Demonstration Documentation (Details provided in the DEP Compliance Demonstration Instructions)
Well drilling, completion and work-over activities	<ul style="list-style-type: none"><li>• The owner or operator must provide 24-hr advance notice to appropriate DEP Regional Office prior to commencement of each well completion</li><li>• The notice must include the following: Contact info, Name of well site, County, Township, API Well No., Latitude/Longitude, Planned date of flowback</li><li>• Details of the Reduced Emissions Completion (duration of flowback, combustion, venting, or photograph of well containing REC with date)</li></ul>


## Category No. 38 Compliance Demonstration Criteria

Exemption Criteria	Compliance Demonstration Documentation (Details provided in the DEP Compliance Demonstration Instructions)
Fugitive Leaks	<ul style="list-style-type: none"> <li>• Report containing equipment or component, date of leak detection, detection method, visual image.</li> <li>• Repairs not completed within 15 days with reasons and scheduled dates of repairs.</li> <li>• List of equipment or components that could not be repaired and reason.</li> </ul>
Storage Tanks/Storage Vessels or other Equipment (e.g. truck load-out)	<ul style="list-style-type: none"> <li>• Identification of storage vessel.</li> <li>• Calculate VOC emissions using EPA TANKS, ProMax, API E&amp;P Tanks, HYSIM HYSIS etc.</li> <li>• Performance test results to demonstrate 95% or greater VOC reduction efficiency.</li> <li>• For Truck load-out, copy of MACT-level annual leak test results or NSPS-level annual test results or alternate test results as approved by the Department.</li> </ul>

## Category No. 38 Compliance Demonstration Criteria

Exemption Criteria	Compliance Demonstration Documentation (Details provided in the DEP Compliance Demonstration Instructions)
VOC and HAP Emission Thresholds	<ul style="list-style-type: none"> <li>• Calculations for VOC and HAP emissions using generally accepted models/calculations, including vendor data, direct measurement, EPA emission factors, or modeling programs.</li> </ul>
Flaring Activities	<ul style="list-style-type: none"> <li>• Manufacturer's certifications, spec sheet etc. showing permanent flares are enclosed.</li> </ul>
Stationary IC Engines	<ul style="list-style-type: none"> <li>• Calculations for NOx emissions using generally accepted calculations, vendors data, test data from identical source, or EPA emission factors.</li> </ul>

# Department CDR Review

 <b>pennsylvania</b> DEPARTMENT OF ENVIRONMENTAL PROTECTION		<b><u>Exemption 38: Compliance Demonstration Report</u></b>		Commonwealth of Pennsylvania Northcentral Regional Office Bureau of Air Quality	
Company Name:		Site Name:			
County:		Municipality:			
Reviewer:		Date Reviewed:			
<b>Report Information</b>					
Date Received	Postmark Date	Well Completion Date	Within 180 Days?		
			<input type="checkbox"/> Yes <input type="checkbox"/> No		

- Well completion dates/Source installation dates
- Locational information for wells and/or sources

# Department CDR Review

<b>Storage Vessels <math>\geq</math> 6 tons/year VOCs</b>	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
Identification of each affected unit	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Location of each unit (Lat./Long. using NAD)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
VOC emissions rate	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Method Used:		
Results of performance tests (if applicable)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

- VOC emissions for all sources
- Calculation methods
- Some information only required for units with PTE >6 tpy

<b>Other Equipment</b>	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
Identification of each affected unit	<input type="checkbox"/> Yes	<input type="checkbox"/> No
VOC emissions rate	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Method Used:		
Results of performance tests (if applicable)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A

<b>Tanker Truck Load-Out</b>	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
Identification of each affected unit	<input type="checkbox"/> Yes	<input type="checkbox"/> No
VOC emissions rate	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Method Used:		
Results of performance tests (if applicable)	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> N/A



# Department CDR Review

## VOC/HAP Emissions

Excluding sources that are permitted or meet the exemption criteria in (d) i., ii., and iv. of Ex. 38  
Including tanks < 6 tons/year VOCs, and all other sources at the facility

VOC and HAP emissions calculations	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Method Used:		

	Reported Data	Limit
VOCs		<i>2.7 tons in any 12-cmp</i>
Single HAP		<i>1000 lb in any 12-cmp</i>
Combined HAPs		<i>1 ton in any 12-cmp</i>

<b>NO<sub>x</sub> Emissions (Stationary Internal Combustion Engines)</b>	<input type="checkbox"/> Applicable	<input type="checkbox"/> N/A
NO <sub>x</sub> emissions calculations	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Method Used:		

	Reported Data	Limit
NO <sub>x</sub>		<i>100 lb/hr</i>
		<i>1000 lb/day</i>
		<i>2.75 tons/ozone season</i>
		<i>6.6 tons in any 12-cmp</i>

- Emissions compared to limits
- NOx emissions for all sources

# Department CDR Review

<b>Permanent Flares</b>	<input type="checkbox"/> <b>Applicable</b>	<input type="checkbox"/> <b>N/A</b>
Permanent flares are enclosed	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A
Designed in accordance with 40 CFR § 60.18	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A

- Statement of applicability
- 40 CFR §60.18 compliance demonstration

<b>40 CFR Part 60 Subpart OOOO Flowback Notification</b>	
Flowback notification received with CDR	<input type="checkbox"/> Yes <input type="checkbox"/> No

- Inclusion of 24-hour advance notifications

# Department CDR Review

<b>Reduced Emissions Completion</b>	<input type="checkbox"/> <b>Applicable</b>	<input type="checkbox"/> <b>N/A</b>
Information demonstrating compliance with REC requirements	<input type="checkbox"/> <b>Yes</b>	<input type="checkbox"/> <b>No</b> <input type="checkbox"/> <b>N/A</b>

- REC information should include
  - API well number;
  - Duration of flowback;
  - Duration of recovery to the flow line;
  - Duration of combustion;
  - Duration of venting;
  - Reasons for venting,
  - Documentation for exceptions

# Department CDR Review

Leak Detection and Repair Program			
LDAR completed within 60 days of production	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Equipment, date, detection method, and measurement data/visual image	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Method Used:			
Number of repairs not completed within 15 days and equipment on “Delay of Repair” list, date put on list, reason, and schedule repair date	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Number of equipment/components that could not be repaired and reason	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

- Video footage is not required for CDR
- Production dates to verify timeliness
- Equipment type, LDAR methods

## Implementation Instructions Clarification - June 1, 2015

On June 1, 2015, DEP issued a clarification of the Implementation Instructions for the Category No. 38 Exemption Criteria. The updated instructions clarify the following:

- The owner or operator of exploratory wells, wildcat wells, or delineation wells are not required to submit any CDR to the Department. However, the owner or operator must comply with all applicable requirements including 40 CFR Part 60, Subpart OOOO requirements.
- Within 60 calendar days after the well is “put into production”, and annually thereafter, the owner/operator is required to perform a leak detection and repair (LDAR) program. No well will be considered to be “put into production” unless gas is flowing continuously into a sales line or to a storage vessel. Temporarily shut-in wells are required to perform a LDAR program within 60 calendar days after the well is put into production and gas is flowing into a sales line. However, the owner or operator must repair any leak as expeditiously as practicable but no later than 15 calendar days after it is detected for a temporarily shut-in well.

## Implementation Instructions Clarification - Continued

- The owner or operator of a “non-road engine” as defined in 40 CFR § 89.2 is not required to submit compliance demonstrations to the Department. However, the owner or operator must report emissions from all sources at the facility, including non-road engines in the annual source report, which must be submitted to DEP by March 1st each calendar year.
- Only “flaring operations” are required to be designed and operated in accordance with the requirements of 40 CFR § 60.18. Enclosed devices such as thermal oxidizers are not required to comply with the § 60.18 provisions.

# Common CDR Deficiencies

- Common CDR deficiencies include:
  - 24-hour advance flowback notifications
  - API numbers and associated completion dates
  - NOx data for all equipment
  - Equipment used in FLIR surveys

# Common CDR Deficiencies

- Common deficiencies, continued
  - Reduced emission completion dates
  - Production dates for LDAR compliance
  - Emission calculation methods



# Good CDR Examples

- Good examples of CDRs have included
  - Emissions information in tables for the site
  - List of all wells in the report
  - Completion/Installation dates

# CDR Formatting for Submittals

- Preferred CDR formatting includes:
  - Separate reports by county
  - Double-sided hardcopy reports
  - DEP Regional CDR contacts on e-mailed submittals (provided on final slide)

# Well Pad Inspections

- Inspections for compliance with the Category No. 38 Exemption Criteria include the following:
  - Verification of reported equipment
    - Determine whether all sources were identified in CDR
  - Verification of well API numbers and labels
  - Review of required records, including LDAR
  - Recording of operating parameters for sources
  - Testing/LDAR observations

# Implementation Instructions and FAQ

- DEP has posted the FAQ document concerning the implementation of the Category No. 38 Exemption Criteria and GP-5 and the Category No. 38 implementation instructions on DEP's website.
- Both documents provide explanations of the implementation requirements for the Category No. 38 Exemption and answers questions often posed by owners or operators.
- These documents can be accessed at:  
[http://www.portal.state.pa.us/portal/server.pt/community/permits/21826/general\\_permits/1830638](http://www.portal.state.pa.us/portal/server.pt/community/permits/21826/general_permits/1830638)

# Regional CDR Contacts

	Name	Title	Phone	Email
NCRO	Morgan Beacker	Air Quality Specialist	(570) 321-6579	<a href="mailto:mbeacker@pa.gov">mbeacker@pa.gov</a>
SWRO	Cary Miller	Air Quality Specialist	(412) 442-4277	<a href="mailto:carymiller@pa.gov">carymiller@pa.gov</a>
NWRO	Edward Orris	Environmental Engineer Manager	(814) 332-6636	<a href="mailto:eorris@pa.gov">eorris@pa.gov</a>
NERO	Raymond Kempa	Environmental Engineer Manager	(570) 826-2507	<a href="mailto:rkempa@pa.gov">rkempa@pa.gov</a>
RSCOB	Naishadh Bhatt	Chief, Technical Support Section	(717) 787-2856	<a href="mailto:nabhatt@pa.gov">nabhatt@pa.gov</a>



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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Waste, Air, Radiation & Remediation

# **Overview of BAQ-GPA/GP-5 Conditions and Implementation Requirements**

**BUREAU OF AIR QUALITY  
PA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
KRISHNAN RAMAMURTHY  
AUGUST 12, 2015**

Tom Wolf, Governor

John Quigley, Secretary

# GP-5 General Information

- BAQ-GPA/GP-5 is the General Plan Approval and/or General Operating Permit for sources located at natural gas compression and/or processing facilities. The current GP-5 became effective on January 16, 2015.
- The GP-5 is applicable only to non-major facilities.
- The actual emissions from all sources and associated air pollution control equipment must not equal or exceed any of the following thresholds on a 12-month rolling sum basis:

NO <sub>x</sub> – 100 tons	CO – 100 tons
SO <sub>2</sub> – 100 tons,	PM <sub>10</sub> – 100 tons,
PM <sub>2.5</sub> – 100 tons	VOCs – 50 tons
Single HAP – 10 tons	Total HAPs – 25 tons



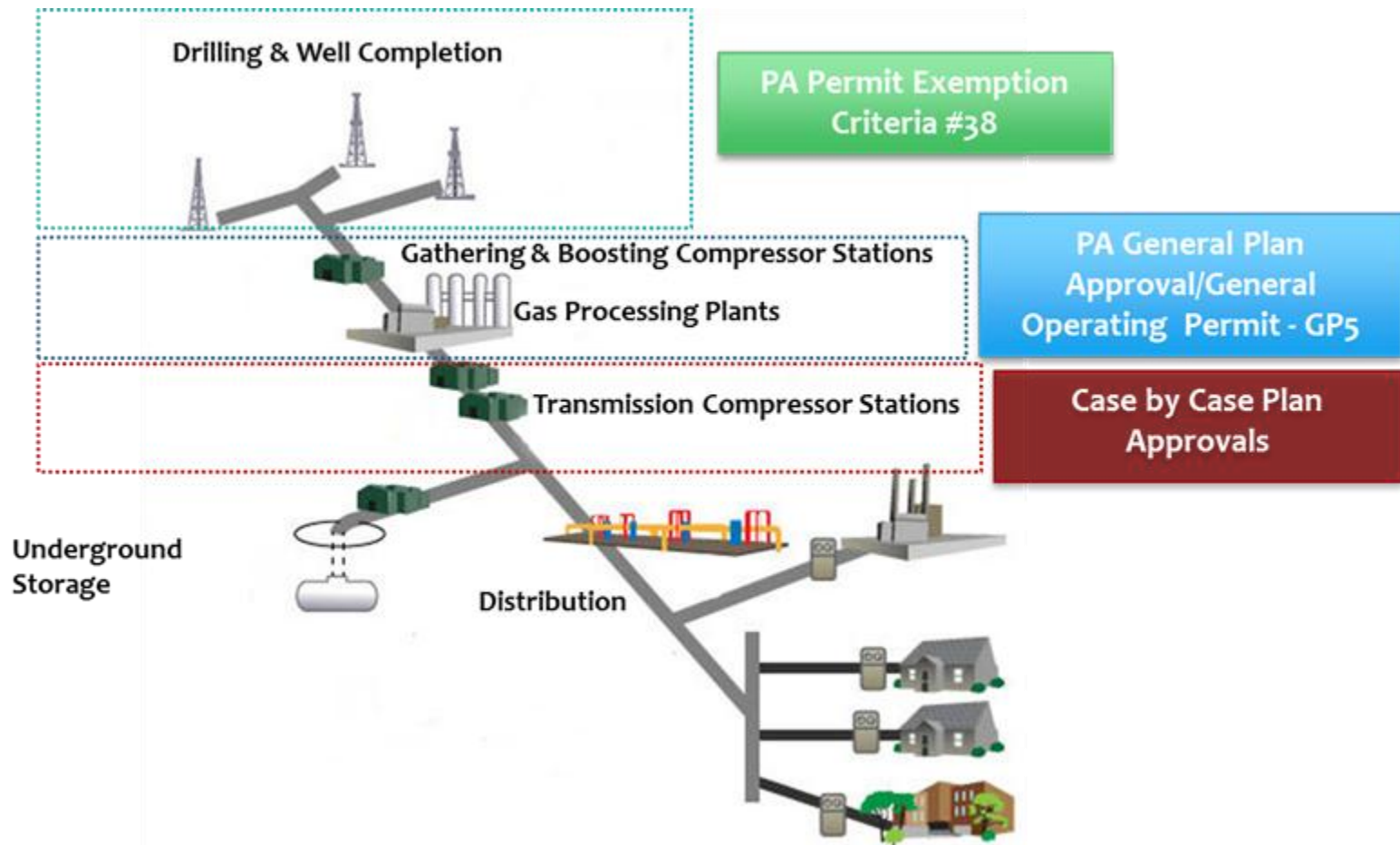
## How the Minor Source General Permit Works

- Compliance with minor source permit limits is based on the facility's **actual** emissions.
- Actual emissions must not exceed any of the major facility thresholds on a 12-month rolling basis.
- Individual sources cannot exceed any source specific emission limitation specified in GP-5.

# Key Changes in the Current GP-5

- Deletion of the applicability threshold requirement for greenhouse gases due to the vacatur of EPA's GHG Tailoring Rule;
- Addition of an annual compliance certification requirement;
- Clarification of the applicability provisions for natural gas compressors;
- Clarification of the appropriate test method for formaldehyde emissions; and
- Other minor clarifying modifications.

# Where BAQ-GPA/GP-5 may be applicable?



# Air Pollution Sources Authorized Under GP-5

- **Compressor Stations**
  - Natural gas fired engines, natural gas fired simple cycle turbines, dehydrators, storage tanks, pneumatic controllers, reciprocating and centrifugal compressors and equipment leaks.
- **Processing Plants**
  - Dehydrators, fractionation units, equipment including depropanizers, sweetening units, natural gas fired engines used in the refrigerator cycle, pneumatic controllers and equipment leaks.

# GP-5 Application Form

The GP-5 Application Form must, at a minimum, include the following:

- General information about Owner/Operator and Site
- Facility information
- Land use information
- Source specific information and emissions data
- Facility wide emissions data
- Proof of municipal and county notifications

Please see GP- 5 Application Form instructions for details.

# GP-5 Terms and Conditions

GP-5 terms and conditions include the following requirements:

- Municipal notification
- Annual compliance certification
- Source specific emission limits and other requirements
- Performance testing
- Notification, recordkeeping and reporting
- Work practice and monitoring
- Malfunction reporting
- Applicable federal requirements

# GP-5 Terms and Conditions

- The terms and conditions cannot be modified in the authorization to use GP-5.
- Specific BAT emission limits established for gas engines and gas turbines.
- Requirements included to document operations below major source thresholds (every month).
- Testing requirements and verification of the emission rates required every 2500 hours of operations.
- LDAR program required over entire compressor station.

# GP-5 Terms and Conditions

The owner or operator must:

- Notify the local municipality prior to submitting application.
- Submit annual compliance certifications to DEP signed by a responsible official no later than March 1st each year.
- Submit performance test results for each applicable source.
- Submit notifications and report malfunctions to DEP in accordance with GP-5 conditions.



# GP-5 Terms and Conditions

The owner or operator must also:

- Report annual emissions data to the DEP by March 1<sup>st</sup> each year.
- Maintain records of work practice and monitoring.
- Maintain all records for at least five years.

# GP-5 Compliance Certification

- The owner or operator of the facility must submit a Compliance Certification Form to the DEP by no later March 1<sup>st</sup> each year for the previous year.
- The Compliance Certification Form must be signed by a “responsible official” (defined in 25 Pa. Code §121.1) as to truth, accuracy, and completeness as required under 25 Pa. Code §127.402(d). The form must be postmarked or hand-delivered to the appropriate regional office, no later than March 1st.

# GP-5 Compliance Certification

- The compliance certification must include:
  - The identification of each term or condition of the GP-5 that is the basis of the certification.
  - The compliance status.
  - The methods used for determining the compliance status of the source, currently and over the reporting period.
- For compliance certification purposes, the owner or operator of the facility must complete the Compliance Certification Form along with Table-1 which includes a noncompliance description and corrective actions.

# GP-5 Compliance Certification

- The owner or operator should also complete the Compliance Certification Worksheet to indicate the compliance status for each GP-5 permit condition on the basis of its compliance with the specific requirements of the condition throughout the reporting period.
- The worksheet should be provided to the DEP, upon request.

# Equipment Leaks

- Applicable Regulations include: 25 Pa. Code § 127.1 & 40 CFR Part 63 Subpart HH and Part 60 Subpart KKK.
- Applicability: Valves, Piping, Pumps, Flanges, Seals, Loading Arms, Dehydrators, Storage Tanks.
- Audible, visual, and olfactory inspections for leak detections performed on a monthly basis.
- Leak detection monitoring required using Forward Looking Infrared (FLIR) cameras or other leak detection monitoring devices approved by the Department.
- The leak detection monitoring devices must, at a minimum, be used on a quarterly basis.

# Equipment Leaks

- Any leaks detected must be repaired as expeditiously as practicable, but no later than 15 days unless facility shutdowns or ordering of replacement parts are necessary for repair of the leaks.
- Leaks detected and repaired must be recorded and the records maintained at the site.

# GP-5 Implementation Issues - Operations

- Initial Notifications
- Stack Testing
- Periodic Monitoring
- Reporting
- Authorizations
- Compliance with Federal Requirements
- Compliance with Storage Tank Requirements
- Housekeeping & Best Practices

# Initial Notifications Submitted to DEP

- Initial commencement of construction
- Final completion of construction
- Lapses in construction >18 months
  - Notice to DEP in writing, within 5 business days following the lapse
- Intent to commence operation
  - Notice to DEP in writing, at least 5 business days prior to commencing operation
- Comply with Federal notice requirements
- Notification requirements are per source



# Reporting

- Malfunctions reported to DEP by telephone within 24 hours of occurrence.
  - No later than 4:00 pm of first subsequent business day in case of weekends/holidays.
  - Notify county EMA in cases of danger to public
    - Written notice to Department within 3 days in cases of danger to public.
    - Otherwise, written notice to Department within 5 days.
- Comply with all applicable Federal reporting requirements.

# GP-5 Authorizations

- A GP-5 authorization is **only** for sources originally proposed/authorized by the Department.
- Additional sources or deviations from originally authorized sources may require a new GP-5 authorization.
- Like-kind replacements are not authorized under GP-5.

# GP-5 Authorizations

- A complete GP-5 Application for a re-authorization to use GP-5 must be submitted to DEP at least 30 days prior to the expiration date for the existing authorization.
- New GP-5 Application required to transfer ownership of a facility.

# Compliance with Federal Requirements

- An owner or operator must comply with **all** Federal requirements
  - Including (but not limited to) 40 CFR Part 60, Subparts IIII, JJJJ, KKK, OOOO, Kb; 40 CFR Part 63, Subparts ZZZZ, HH.

# Malfunction Reporting Requirements

- Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control or process equipment, or, operating in a non-permitted manner, which results in, or may possibly be resulting in, the emission of air contaminants in excess of any applicable limitations specified in GP-5.

# Malfunction Reporting Requirements

- Incidents covered by the notification, recordkeeping and reporting requirements relating to performance testing, work practice and monitoring standards, equipment leaks or fugitive emissions noted in GP-5 are not subject to the reporting requirements.
- The owner/operator authorized to use GP-5 shall report to the PA DEP each incident which results in, or may possibly be resulting in, the emission of air contaminants in excess of any applicable limitations specified in GP-5.

# Malfunction Reporting Requirements

- Reportable vs Non-reportable incidents.
- Examples of Reportable and Non-reportable incidents are listed in the “GP-5 Malfunction Reporting Instructions” document, which is available on DEP’s website.

# 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 the general plan approval fee of \$1,700.
- General operating permit fee of \$375 also applies for any application which grants a 5-year operating term.
- Annual operating permit administrative fee of \$375 must be paid by March 1<sup>st</sup> for the previous calendar year.

# 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.

# 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 total VOC emissions from the still vent and flash tank must be controlled by 95%.
  - 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  $\geq 6$  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 loadout, 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. A general plan approval fee of \$1,700 and \$375 fee would be required.
- 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.

# Emissions Inventory

- By March 1st each year, the owner or operator must submit a source report to the Department for the preceding calendar year.
- The source report must include emissions from all sources at natural gas compression and processing facilities. The emissions from leaks including methane emissions must also be included in the report.

- The Department has posted a Frequently Asked Questions (FAQ) document concerning the implementation of GP-5 and Category No. 38 Exemption Criteria.
- The FAQ provides a clear explanation of the applicable requirements and answers questions often posed by owners and operators.

## Links to the GP-5 Conditions and the FAQ Document

- GP-5 conditions and the application forms may be accessed at:

<http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-9747>

- The FAQ document can be found on DEP's website at:

<http://www.dep.state.pa.us/dep/deputate/airwaste/aq/permits/gp.htm>





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# **OVERVIEW OF SINGLE SOURCE DETERMINATION**

**OFFICE OF CHIEF COUNSEL  
PA DEPARTMENT OF ENVIRONMENTAL PROTECTION  
ROBERT "BO" REILEY  
AUGUST 12, 2015**

# Background of Single Facility Determination

- The federal PSD regulations, which Pennsylvania incorporates by reference in their entirety, define "stationary source" to mean "any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant."
- Moreover, a "building," "structure," "facility," or "installation" is defined as all the pollutant-emitting activities which:
  - belong to the same industrial grouping;
  - are located on one or more contiguous or adjacent properties; and
  - are under the control of the same person.
- If two or more air contamination sources are determined to be a single source, the sources should be treated as a single air contamination source for PSD and Title V permitting purposes.
- However, if the three-pronged regulatory criteria for single source determinations are met, all sources should be aggregated irrespective of their separate status as "minor" or "major" air contamination sources.

# Background of Single Facility Determination

- For non-attainment NSR purposes, Pennsylvania defines “facility” to mean
  - “an air contamination source or combination of air contamination sources located on one or more contiguous or adjacent properties
  - and which is owned and operated by the same person under common control.”
- If two or more air contamination sources are determined to be a single source with emissions, which collectively meet or exceed the major source thresholds and the two-part criteria under this definition, they should be treated as a single air contamination source for non-attainment NSR permitting purposes.
- However, the case-by-case single source determination would apply to all sources irrespective of their separate status as “minor” or “major” air contamination sources.

# Background of Single Facility Determination

- Neither Pennsylvania nor federal regulations define the terms “contiguous” or “adjacent” or place any definitive restrictions on how distant two emission units can be and still be considered located on contiguous or adjacent properties for the purposes of a single source determination.

# Background of Single Facility Determination

- A case-by-case determination is needed to determine if sources are considered contiguous or adjacent.
- The following items should be considered in the analysis:
  - (1) properties located within a quarter mile are considered contiguous or adjacent;
  - (2) sources within this quarter-mile distance should be aggregated so long as they meet the other two regulatory criteria (same industrial grouping and common control);
  - (3) emission units on two or more separate, but near-by, properties and separated by an intervening railroad, road, or some other obstacle may be considered contiguous or adjacent;
  - (4) facilities should not be “daisy-chained” together to establish a contiguous grouping; and
  - (5) properties located outside a quarter mile may be considered contiguous or adjacent on a case-by-case basis.

# Pennsylvania Litigation

- *Clean Air Council v. MarkWest Liberty Midstream* (Pennsylvania EHB Docket No. 2011-072-R) (Washington County)
  - MarkWest midstream operator.
  - Houston Gas Plant and 9+ compressor stations.
    - Gathering, separation, fractionation, shipping.

# Pennsylvania Litigation

- Operations in WV and OH also.
- No wells.
- Distances (Houston Plant to compressors: 1.5-11 miles).
- Ownership not in question.
- CAC arguing functional interrelationship – gas from one station can't get to interconnect with another pipeline.



# Pennsylvania Litigation

- Facts changed to CAC's detriment while appeal pending.
  - New two way pipeline to WV.
  - New Options.
- CAC withdrew appeal for letter from DEP stating that adjacency decisions will be memorialized in future review memos, and little else.

# Pennsylvania Litigation

- *Group Against Smog and Pollution v. DEP and Laurel Mountain Midstream* (Pennsylvania EHB Docket No. 2011-065-R) (Fayette County)
  - Laurel Mountain Midstream is a midstream operator, owns and operates the Shamrock Compressor Station.
  - GASP argued that the compressor stations and wells are a single source.

# Pennsylvania Litigation

- Ownership and Control and Adjacency.
- Wells located 1.3 miles to 17 miles from Shamrock Station.
- Also, even if single source, combined emissions less than major source threshold.
- GASP just withdrew appeal, no settlement deal
- GASP lawyer credits regulatory change (e.g. new GP-5) for withdrawal.

# Pennsylvania Litigation

- *Clean Air Council v. DEP and Sunoco*  
(Pennsylvania EHB Docket No. 2012-165-L)  
(Philadelphia/Delaware Counties)
  - Sunoco owned Philadelphia and Marcus Hook oil refineries.
  - Eighteen miles apart.
  - Separately permitted by DEP and Philadelphia, respectively, for decades.

# Pennsylvania Litigation

- During discussions about closure of refineries or their sale, single source status was reevaluated.
- Despite distance, integrated operation of the two refineries lead to single source determination.
- Not actively litigated.
- Bad press for CAC.
- Settled for letter clarifying that there is no “fourth” single source evaluation factor.

# Pennsylvania Litigation

- *Clean Air Council v. DEP and Angelina Gathering Company* (Pennsylvania EHB Docket No. 2012-141-R (Bradford County))
  - Clean Air Council asserted that a compressor station and gas wells (up to 9) should be considered a single source.
  - Wells owned by a purportedly related company.

# Pennsylvania Litigation

- CAC seems anxious to litigate until it realized that even if the wells and compressor station are a single facility, it would not be a major facility.
- Settled for letter from DEP counsel stating that North Central Region will identify wells and PTE for wells that are “contiguous or adjacent” to compressor station and under “common ownership or control” in the plan approval or GP review memo.

# Pennsylvania Litigation

- *National Fuel Gas v. DEP* (Pennsylvania EHB Docket No. 2013-206-B) (McKean/Elk Counties)
  - Only active single source case before EHB.
  - Appeal by company of DEP decision to treat Seneca Resources' Compressor Station and NFG's Bodine Station as a single source.



# Pennsylvania Litigation

- DEP concedes different SIC codes.
- Support relationship.
  - Same property.
  - Common ownership.
  - Produce a “common product.”
- Separated by less than 1 mile.
- Combined emissions do not make facility a major source.

# SUMMARY AND CONCLUSIONS

- Several cases, no conclusive EHB decisions yet.
- Single source litigation most likely in newly developing fields.
- EHB view is unclear.

# Federal Litigation

- In *Summit Petroleum Corp. v. EPA*, 690 F.3d 733, (6th Cir. 2012) the U.S. Court of Appeals for the Sixth Circuit vacated EPA's determination that a natural gas operation's plant and production wells constituted a single major source.
- EPA had determined that Summit Petroleum Corporation's plant and wells, which sit on various parcels in a 43-square-mile area, are "adjacent" to one another, in part, because they are functionally interrelated.

# Federal Litigation

- However, the Court agreed with the company's contention that EPA's determination that the physical requirement of adjacency can be established through mere functional relatedness is unreasonable and contrary to the plain meaning of the term "adjacent."
- The Court vacated EPA's decision and remanded it back to the agency to determine whether Summit's facilities were sufficiently physically proximate to be considered "adjacent" within the ordinary, i.e., physical and geographical, meaning of that requirement.

# Federal Litigation

- On December 21, 2012, in response to the *Summit Petroleum* decision, the EPA issued a memorandum (“Summit Directive”) informing EPA Regional Directors that “interrelatedness” would no longer be considered in determining “adjacency” for single source determinations conducted in the States of Michigan, Ohio, Kentucky and Tennessee.
- The 2012 memo also provided that outside the Sixth Circuit, EPA does not intend to “change its longstanding practice of considering interrelatedness in the EPA permitting actions in other jurisdictions.”

# Federal Litigation

- In *Nat'l Env'tl. Dev. Ass'ns Clean Air Project v. EPA*, 752 F.3d 999, (D.C. Cir. 2014), the U.S. Court of Appeals for the District of Columbia Circuit vacated EPA's December 2012 memorandum directing regional air officials to apply varying air permitting requirements in different states.
- The Court said that the policy outlined in that memo violated the agency's regional consistency regulations, which are found at 40 C.F.R. Part 56.
- The Court also held that that EPA's Summit Directive "creates a standard that gives facilities located in the Sixth Circuit a competitive advantage."

# Federal Litigation

- In *PennFuture v. Ultra Resources* (4:11-CV-1360), U.S. District Court for the Middle District of Pennsylvania upheld a PADEP determination not to aggregate eight compressor stations and associated natural gas wells.
- The specific question that the Court examined was whether the air contamination sources are "adjacent", making Ultra Resources' facilities ineligible for GP-5 permits and requiring the company to meet the more stringent emission permitting requirements under the New Source Review program.
- Ultra Resources urged the Court to look exclusively at the plain meaning of that term, while PennFuture asked the Court to look at the functional interdependency of those facilities when making its determination as to whether they are "adjacent."

# Federal Litigation

- After examining *Summit Petroleum* and the Department's current guidance, the court found that the plain meaning of the term "adjacent" should control as to whether two or more facilities should be aggregated for single source purposes.
- Based on the number of separate and unconnected parcels of land on which the compressors are located and where some of these parcels are separated by several miles, the Court found that the properties at issue cannot reasonably be considered "adjacent" under either *Summit Petroleum* or the Department's Guidance.



# Federal Litigation

- Despite the court's finding that the plain meaning of "adjacent" should control a determination of whether two or more facilities should be aggregated, the court declined to hold that functional interrelatedness can never lead to, or contribute to, a finding of adjacency.
- The Court noted that both the Department's Guidance and Pennsylvania Environmental Hearing Board ("EHB" or "Board") decisions have recognized that interdependence, and whether the sources meet "the common sense notion of a plant," may be factors in single source aggregation decisions in Pennsylvania.

# Federal Litigation

- While *Summit Petroleum* emphasizes the importance of applying the plain meaning of the term "adjacent", the court views the willingness of the Department to permit consideration on a case-by-case basis of the interdependence of facilities when determining whether they should be aggregated as a single source to be a proper exercise of the authority granted to Pennsylvania under the Clean Air Act to adopt "more stringent, or at least as stringent" definitions of the terms defined by the EPA. See 40 C.F.R. 51.165(a)(1).



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# Questions?