



Office of Waste, Air, Radiation & Remediation

# **General Plan Approval and General Operating Permit BAQ-GPA/GP-5 and Proposed Exemption 38**

Citizens Advisory Council Meeting

March 19, 2013

## GP-5 – General Information

- GP-5 is a General Plan Approval and/or General Operating Permit for the sources located at **natural gas compression and/or processing facilities.**
- The notice of availability of the proposed GP-5 was published in the *Pennsylvania Bulletin* on March 3, 2012.
- Comment period ended on May 23, 2012.

## GP-5 – General Information

- GP-5 was issued on **Feb. 1, 2013**. DEP also has prepared the technical support document, comments/response document, FACT sheet, application and instructions.
- You may access these documents at:  
<http://www.dep.state.pa.us/dep/deputate/airwaste/aq/permits/gp.htm>.

## Who can use the GP-5 authorization?

- An owner or operator may obtain an authorization to use the GP-5 to construct and operate the source(s).
- The **GP-5** is applicable only to sources located at a **non-major facility (non-Title V facility)**.
- The owner or operator **must demonstrate** to DEP that the source would comply with all the terms and conditions of the GP-5.
- The terms and conditions **cannot be modified** during the authorization.

# Previous GP-5 vs. Revised GP-5?

## Applicability of sources

Previous GP-5	Revised GP-5
NG-fired engines $\geq 100$ HP to $< 1500$ HP	All size NG-fired engines located at a non-major facility
Glycol Dehydrator	Glycol Dehydrator and associated equipment (excluding re-boiler)
	<ul style="list-style-type: none"><li>- Natural gas-fired simple cycle turbines.</li><li>- Centrifugal compressors.</li><li>- Natural gas fractionation process units (such as De-propanizer, De-ethanizer, De-butanizer).</li><li>- Storage vessels/tanks.</li><li>- Pneumatic controllers.</li><li>- Sweetening Units.</li><li>- Equipment leaks.</li></ul>

# Previous GP-5 vs. Revised GP-5

## Emissions limits of engines

Previous GP-5		Revised GP-5							
Lean-Burn or Rich-Burn Engines $\geq 100$ HP to $< 1500$ HP		Lean-Burn			% Reduction from Previous GP-5	Rich-Burn			% Reduction from Previous GP-5
		$\leq 100$ HP	$> 100$ HP to $\leq 500$ HP	$> 500$ HP		$\leq 100$ HP	$> 100$ HP to $\leq 500$ HP	$> 500$ HP	
NOx	2.0	2.0	1.0	0.50	75%	2.0	0.25	0.20	90%
CO	2.0	2.0	2.0	47 ppmvd or 93% control	80%	2.0	0.30	0.30	85%
VOCs	2.0	-	0.70*	0.25*	87.5%	-	0.20*	0.20*	90%
HCHO	None	-	-	0.05		-	-	2.7 ppmvd or 76% control	

\* NMNEHC (as propane excluding HCHO)

# Previous GP-5 vs. Revised GP-5

## Inclusion of gas turbines

Revised GP-5			
Pollutant	Simple Cycle Gas Turbine		
	≥ 1,000 HP to <5,000 HP	≥ 5,000 HP to ≤15,000 HP	>15,000 HP
NOx	25	15	15
CO	25	25	10 ppmvd or 93% control
VOCs	9*	9*	5 ppmvd* or 50% control
PM	0.03 lb/MMBtu	0.03 lb/MMBtu	0.03 lb/MMBtu

\* NMNEHC (as propane excluding HCHO)

# Previous GP-5 vs. Revised GP-5

## Glycol Dehydrators

<b>Previous GP-5</b>	<b>Revised GP-5</b>
Glycol Dehydrator	Glycol Dehydrators and associated equipment including Gas-Condensate-Glycol (GCG) separators (Flash Tanks)
VOCs > 10 tpy are required to control 85% of VOC emissions.	New large glycol dehydrators are required to comply with the applicable 40 CFR Part 63, Subpart HH, visible emissions and malodors requirements.
	Each new small glycol dehydrator which has a total uncontrolled PTE VOC emission rate in excess of 5 tpy are required to control 95% of VOC emissions, work practice, testing, visible emissions, and malodors requirements.
	Each new small glycol dehydrator which has a total uncontrolled PTE VOC emission rate equal to or less than 5 tpy are required to comply with visible emissions, and malodors requirements.

## Synthetic Minor Permit Limits

The emissions from all sources located at a facility **shall not equal or exceed** any of the following on a 12-month rolling sum basis:

- NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub> or PM<sub>2.5</sub> – 100 tons.
- VOCs – 50 tons.
- Any individual HAP – 10 tons.
- Total HAPs – 25 tons.
- Greenhouse gases, expressed as carbon dioxide equivalent (CO<sub>2</sub>e) – 100,000 tons.

## How the synthetic minor permit works?

- **Compliance** with synthetic minor permit limits are **based on the facility's actual emissions**, rather than aggregating the individual potential-to-emit (PTE) of sources at the facility.
- The facility wide 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 included in the GP-5.**
- Encourages installations of cleaner sources.

## Synthetic Minor Permit Limits (cont.)

- In addition to the source specific recordkeeping requirements, the owner or operator of the facility **shall also maintain records that clearly demonstrate to DEP that the facility is not a Title V facility.**
- These records shall be maintained at a minimum on a monthly basis and the emissions shall be calculated on a **12-month rolling sum.**
- These **records** shall be retained for a minimum of five **(5) years** and shall be made available to the DEP request.

## What if the facility exceeds minor source threshold?

- If a GP-5 facility becomes a major facility by virtue of exceeding a major source threshold, the major source **permit requirements such as New Source Review (NSR) and Prevention of Significant Deterioration (PSD) will apply to the facility as though construction had not yet commenced on the source.**
- If the facility becomes a major facility due to installation of an additional source, **a Plan Approval is required for the installation of this source and a Title V permit will be required for the operation of the facility. Based on the emission increases, NSR requirements may be applicable.**

## Wellheads (Proposed Exemption)

- The revised **GP-5 is not applicable to wellheads.**
- **Wellheads and associated equipment** are addressed in the **proposed Exemption Category #38** as specified in the Permit Exemption list.

# Proposed Exemption List

- DEP has authority to determine sources or classes of sources that could be exempted from the permitting requirements in accordance with Section 127.14.
- The entire permit exemption list revisions were proposed on Feb. 26, 2011.
- DEP is re-proposing exemption criteria for oil and gas exploration, development, production facilities & associated equipment (Category No. 38), published March 2, 2013.
- Comments must be submitted to DEP by March 19, 2013.

## Oil and Gas Exploration, Development, Production Facilities (Exemption List, Category)

**Importantly, this is only an exemption from permitting and not from effectively controlling emissions from a well pad.** By implementation of these measures required by the criteria, VOC and HAP emissions will be controlled to levels that are equal to or better than New Source Performance Standards (NSPS) and Best Available Technology levels. **Exemption criteria include monitoring requirements better than NSPS.**

# Oil and Gas Exploration, Development, Production Facilities (Exemption List, Category)

- Although a source may be exempt from permit requirements, **it is subject to all applicable state and federal regulations such as 25 Pa. Code Article III and federal requirements such as NSPS and NESHAPs.**
- Sources not meeting the exemption requirements may submit a Request for Determination (RFD) form to DEP. **If the RFD is not approved, a plan approval application should be submitted.**

# Federal NSPS Subpart OOOO

- Promulgated by EPA for the Oil and Gas Sector on **Aug. 16, 2012.**
- Regulates emissions of volatile organic compounds (VOC) from the Oil and Gas Industry **including natural gas wells and storage tanks.**
- After Jan. 1, 2015, natural gas wells that are hydraulically fractured must employ **reduced emission completion (Green Completion) technology.**
- **Does not include Leak Detection and Repair (LDAR) requirements for the wellheads.**

# Unconventional and Conventional Wells (Category No. 38)

- An unconventional wellhead and associated equipment can be permitted using a **Plan Approval** or be exempted from permitting provided it meets the criteria specified in **Category #38** of the Permit exemption list.
- Inherently low emitting conventional wellheads and associated equipment will be exempted without any specific conditions consistent with current practice.

# Storage Vessels/Tanks Exemption and Control (Category No. 38)

- EPA's final NSPS Subpart OOOO rules require the owner or operator to reduce VOC emissions by 95% if VOCs emissions from each storage vessel is above six tpy.
- The proposed exemption requires the owner or operator to reduce VOC emissions by 95% if aggregated VOCs emissions from storage vessels/storage tanks are above 2.7 tpy.

# VOCs and HAPs Exemption Criteria

(Category No. 38)

- Sources emitting **VOCs emissions** are exempted if the combined uncontrolled VOC emissions at a facility are **less than 2.7 tons on a 12-month rolling basis.**
- If the VOCs include HAPs, **combined HAP emissions must be less than 1000 lbs. of a single HAP or one ton of a combination of HAPs in any consecutive 12-month period.**

# Flare Exemption Criteria

(Category No. 38)

Flares are exempted from the permitting requirements if the following are met:

- Flare used at a wellhead that is subject to 40 CFR Part 60 Subpart OOOO requirements. Enclosed flares are not required.
- Flares used at exploration wells drilled to determine whether oil and/or gas exists. Enclosed flares are not required.
- **Flares used for other operations at a wellhead or facility must be enclosed.**

# Flare Exemption Criteria

(Category No. 38)

Flares are exempted from the permitting requirements if the following are met:

- Unenclosed flares used for repair, rework or re-completion at a wellhead.
- Flare operations required for emergency or safety purposes provided DEP is notified within 24 hours.

# NOx Exemption Criteria

(Category No. 38)

- EPA's NSPS Subpart OOOO rules does not address NOx emissions from engines.
- The proposed exemption criteria specifies that stationary engines emit **combined NOx emissions of less than 100 lbs/hr, 1000 lbs/day, 2.75 tons per ozone season and 6.6 tpy on a 12-month rolling basis.**
- **States are precluded from establishing emission standards for non-road engines as defined in 40 CFR Part 89.**

# Leak Detection and Repair Requirements (Category No. 38)

- Leak detection and repair (**LDAR**) **requirements for the entire wellhead and associated equipment** rather than just storage vessels/storage tanks
- Emissions for safety reasons or prevention of gas migration, from equipment designed to vent such as pneumatic controllers or to protect well integrity are not considered leaks.

# Leak Detection and Repair Requirements (Category No. 38)

- The owner or operator shall conduct leak detection **within 60 days after the completion of the well** using forward looking Infrared (FLIR), a gas leak detector as previously defined or any other DEP-approved monitoring device or process.
- **After initial evaluation, leak detection shall be conducted on an annual basis.**

# Leak Detection and Repair Requirements

(Category No. 38)

- If a leak is detected, the owner or operator of the facility shall quantify and repair the leak to operate with **no detectable organic emissions consistent with 40 CFR Part 60 Subpart OOOO, or be less than a concentration of 2.5% methane as expeditiously as practicable, but no later than thirty (30) days after the leak is detected.**
- **DEP may grant an extension** upon request for LDAR deadlines.

# Leak Detection and Repair Requirements

(Category No. 38)

- LDAR will ensure that necessary maintenance is performed to minimize fugitive VOC and methane emissions from the entire well pad on a continuing basis.

# Leak Detection and Repair Requirements (Category No. 38)

Questions?



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



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