



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF AIR QUALITY

**APPLICATION FOR AUTHORIZATION TO USE
GENERAL PLAN APPROVAL AND/OR GENERAL OPERATING PERMIT**

**General Permit BAQ-GPA/GP-5
Natural Gas Compression and/or Processing Facilities**

SECTION A. APPLICATION TYPES	
This application is for:	<input type="checkbox"/> A new authorization for General Plan Approval & Operating Permit <input type="checkbox"/> A General Plan Approval Only <input type="checkbox"/> A re-authorization with no modification (Specify the first GP-5 authorization date) <input type="checkbox"/> A re-authorization with modification (Specify the first GP-5 authorization date) <input type="checkbox"/> A new authorization due to transfer of ownership <input type="checkbox"/> Modification at an existing facility with a GP-5 Source(s) associated with: <input type="checkbox"/> Marcellus shale <input type="checkbox"/> Utica shale <input type="checkbox"/> Coal bed methane, or gob gas <input type="checkbox"/> None (Specify:)
Remarks:	
SECTION B. OWNER INFORMATION	
Owner's Name and Tax ID Address Line1 _____ Address Line2 _____ City State Zip+4 _____ Phone _____	
SECTION C. OPERATOR INFORMATION (if different from Owner)	
Operator's Name Address Line1 _____ Address Line2 _____ City State Zip+4 _____ Phone _____	
SECTION D. CONTACT INFORMATION	
Contact Name Contact Title _____ Address Line1 _____ Address Line2 _____ Email Address _____ City State Zip+4 _____ Phone _____	
SECTION E. PERMIT INFORMATION	
Is this facility currently permitted?	<input type="checkbox"/> Yes. If yes, provide current and past authorization numbers: <div style="float: right; text-align: right;"> <input type="checkbox"/> No </div>
Does facility contain source(s) previously exempted and not listed in this application	<input type="checkbox"/> Yes. If yes, list the source(s) with date of exemption(s): <div style="float: right; text-align: right;"> <input type="checkbox"/> No </div>

**SECTION F.
APPLICANT'S CHECKLIST**

I have enclosed the following:

- | | |
|---|---|
| <input type="checkbox"/> General Information Form (GIF)
<input type="checkbox"/> General Permit fees
<input type="checkbox"/> Engine performance data sheets
<input type="checkbox"/> Process Flow Diagram showing all associated equipment and emission points/stacks
<input type="checkbox"/> Attachment-A (the Questionnaire and Checklist for Single Source Determination)
<input type="checkbox"/> Proof of submittal of the municipal notification along with a copy of application for authorization to use GP-5
<input type="checkbox"/> Map/Layout of adjacent facilities ¹ under common control. Mark SIC code, permit number (if any) of each source, and indicate distances between boundaries of compressor station(s), the well(s), and associated natural gas processing plant(s) on the map/layout. See attachment-A.
<input type="checkbox"/> Pennsylvania Natural Diversity Inventory (PNDI) review receipt and clearance letter ² | <input type="checkbox"/> Compliance Review Form
<input type="checkbox"/> Control device manufacturer guarantees.
<input type="checkbox"/> GRI-GLYCalc data.
<input type="checkbox"/> Tank emission data (using EPA's Tanks software, Simulation Software, or TANKCalc. Etc.) |
|---|---|

¹e.g., well(s), compressor station(s), processing plant(s) etc.

²See instructions

**SECTION G.
AFFIDAVIT**

I certify that, subject to the penalties of Title 18 Pa. C.S.A. Section 4904 and 35 P.S. Section 4009(b)(2), I am the responsible official having primary responsibility for the design and operation of the facilities to which this application applies and that the information provided in this application is true, accurate and complete to the best of my knowledge, information and belief formed after reasonable inquiry. I further certify that the facility will be operated in conformity with the information provided in this application form and all limitations and conditions of the Natural Gas Production and/or Processing Facilities General Permit (BAQ-GPA/GP-5).

Signature _____

Date _____

Typed/Printed Name _____

[illegible]

SECTION H1. INTERNAL COMBUSTION (IC) ENGINE(S) INFORMATION (Copy this section to describe each engine)				
Engine ID.	Model & Serial No.		Date of installation	
Manufacturer	Combustion Type <input type="checkbox"/> Rich Burn <input type="checkbox"/> Lean Burn		Order date for new or reconstructed engine	
Date of Manufacture	Engine displacement in ³ /Cyl.		Projected startup date for New or Reconstructed Engine	
Max. Rated Capacity (BHP) (Specify site-rated HP if de-rated for site conditions)			@	RPM
Stroke Type: <input type="checkbox"/> 2 Stroke <input type="checkbox"/> 4 Stroke				
General description of engine function and purpose:				
Check all applicable Federal rules for this engine	<input type="checkbox"/> 40 CFR Part 60, Subpart JJJJ	<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR Part 63, Subpart ZZZZ	<input type="checkbox"/> Others, Specify
ENGINE CONTROL Engine ID: _____				
<input type="checkbox"/> Non Selective Catalytic Reduction (NSCR) <input type="checkbox"/> Oxidation Catalyst				
Is this engine equipped with an Air/Fuel ratio controller? <input type="checkbox"/> Yes (Details: _____) <input type="checkbox"/> No				
Details of process control used for proper mixing/control of reducing agent with gas stream:				
Manufacturer:		Model No:		
Design operating temperature: °F		Design gas volume scfm		
Service life of catalyst:		Attach efficiency and other pertinent information (e.g. ammonia slip)		
Operating Parameters:				
Volume of gas handled: acfm @ °F		Operating temperature range for NSCR/Oxidation catalyst (°F) From °F To °F		
Reducing agent used, if any:		Ammonia slip (ppm):		
Pressure drop across catalyst bed Δp (if monitored): inch of H ₂ O				
Describe the warning/alarm system that protects unit when operation is not meeting design conditions.				
Describe fully with sketch giving location of equipment, control systems, important parameters and method of operation				
Remarks:				

ENGINE FUEL INFORMATION

Engine ID:

Fuel Type	Fuel Use Rate @ 100% load (SCF/hr)	Annual Fuel Consumption (MMSCF/yr)		Fuel Heating Value (Btu/SCF)	Sulfur Content (% wt.)
		Actual Reported for Calendar Year	Maximum Estimated Amount		

 Fuel usage metered ☐ Yes ☐ No

Remarks:

ENGINE EMISSIONS DATA

Engine ID:

Pollutants	Emission Rates and Control Efficiency				Estimated Atmospheric Emissions*		Estimation Basis (e.g., Source Test, Vendor Data or, AP-42 etc.)
	Allowable g/bhp-hr	Pre-Control g/bhp-hr	Post-Control g/bhp-hr	%Efficiency	Lbs/Yr	Tons/Yr (TPY)	
NO _x							
NMNEHC**							
VOC***							
CO							
SO _x							
PM ₁₀							
PM _{2.5}							
Formaldehyde(HCHO)							
GHG (CO ₂ e)							
Other							

Identify engine(s) on a flow chart and identify the emission points:

Remarks:

*Based on post-control emissions and 8760 hrs. See Application Instruction for Section H1 and H2

** NMNEHC is non-methane, non-ethane hydrocarbons excluding HCHO expressed as propane;

*** VOC Includes NMNEHC and HCHO

SECTION H2.
SIMPLE CYCLE NATURAL GAS TURBINE(S) INFORMATION
 (Copy this section to describe each additional turbine)

Turbine ID		Manufacturer		Manufacturer of CO oxidation catalyst		CO oxidation catalyst operating temperature range	°F
Make		Model & Serial #		Model number of CO oxidation catalyst		Actual gas volume handled (acfm @ °F)	
Date of Manufacture		Capacity (BHP) each		Design maximum temperature		Pressure drop across catalyst bed (if monitored) in inch of H ₂ O	
Capacity MMBtu/Hr		Date Installed		Design gas volume (scfm)		Service life of catalyst	

Describe the warning/alarm system that protects catalyst when operation is not meeting design conditions:

TURBINE EMISSIONS DATA

Turbine ID _____

Pollutants	Emission Rates and Control Efficiency				Estimated Atmospheric Emissions*		Estimation Basis (e.g., Source Test, Vendor Data or, AP-42 etc.)
	Allowable ppm @ 15% O ₂	Pre-Control ppm @ 15% O ₂	Post-Control ppm @ 15% O ₂	%Efficiency	Lbs/Yr	TPY	
NO _x							
NMNEHC**							
VOC***							
CO							
SO _x							
PM ₁₀							
PM _{2.5}							
Formaldehyde(HCHO)							
GHG (CO ₂ e)							
Other							

Identify turbine(s) on a flow chart and identify the emission points:

Remarks:

*Based on post-control emissions and 8760 hrs. See Application Instruction for Section H1 and H2

** NMNEHC is non-methane, non-ethane hydrocarbons excluding HCHO expressed as propane;

*** VOC Includes NMNEHC and HCHO

Check applicable Federal rules for this turbine:

☐ 40 CFR Part 60, Subpart KKKK

☐ Other Specify

SECTION H3.
DEHYDRATOR AND ASSOCIATED EQUIPMENT INFORMATION
(Copy this section to describe each unit)

Unit ID:		Date Installed:		
Make, Model & Serial No.		Date of Manufacture		Manufacturer
Dehydrator Control* Type:		Control Efficiency(%):		Control make/ model/serial no.
*Also use appropriate form(s) under section H8. to provide further details				
Annual Average Dehydrator Gas Throughput (scfm)		Water Content (wt%) in:		Wet Gas: Dry Gas:
Annual Average Glycol Circulation Rate (gpm):		Water Content in Rich Glycol (wt%)		Water Content in Lean Glycol (wt%)
Glycol Type:		<input type="checkbox"/> Ethylene Glycol (EG) <input type="checkbox"/> Di Ethylene Glycol (DEG) <input type="checkbox"/> Tri Ethylene Glycol (TEG)		
Reboiler Heat Input (MMBtu/hr)				
Check all applicable Federal rules for this unit		<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR Part 63 Subpart HH	<input type="checkbox"/> Other specify
Emissions Data				
Pollutants	Uncontrolled Emissions (TPY)	Controlled Emissions (TPY)	Estimated Atmospheric Emissions* (TPY)	Emissions estimation methods
VOC				
HAPs				
NO _x				
SO _x				
CO				
PM ₁₀				
PM _{2.5}				
GHG (CO ₂ e)				
Others				
General description and function of the unit:				
Remarks:				

*Based on 8760 hrs.

**SECTION H4.
FLASH TANK and/or REGENERATOR INFORMATION**

(Copy this section to describe each additional unit)

Unit ID:	Unit make/model/serial no.	Tank capacity (gallons):	Tank content(s)
Control* type:	Control Efficiency(%)	Control make/model/serial no.	Burner Rating (MMBtu/hr)
*Also use appropriate form(s) under section H8. to provide further details			
Flash Tank:	Inlet Pressure (psig)	Outlet Pressure (psig)	Inlet temperature (°F)
			Outlet temperature (°F)
Check all applicable Federal rules for this unit	<input type="checkbox"/> 40 CFR Part 60, Subpart KKK	<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR Part 63 Subpart HH
			<input type="checkbox"/> 40 CFR Part 60 Subpart K, Ka, or Kb
			<input type="checkbox"/> Other Specify

Emissions Data

Pollutants	Uncontrolled emissions (TPY)	Controlled emissions (TPY)	Estimated Atmospheric Emissions* (TPY)	Emission estimation method
VOC				
HAPs				
NOx				
SOx				
CO				
PM ₁₀				
PM _{2.5}				
GHG (CO ₂ e)				
Others				

Describe the function of this unit, include flow chart including all associated equipment and emission points:

Remarks:

*Based on 8760 hrs.

SECTION H5. FRACTIONATOR INFORMATION (Copy this section to describe each additional unit)					
Unit ID:		Unit make/model/serial no.		Control* make/model/serial no.	
Fractionator:	Inlet Pressure (psig)	Outlet Pressure (psig)		Inlet temperature (°F)	Outlet temperature (°F)
Control type:			Control Efficiency(%)		Chemical byproducts:
*Also use appropriate form(s) under section H8. to provide further details					
Liquid throughput (gpm):		Rating of heat source (MMBtu/hr)			
Check all applicable Federal rules for this unit		<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR part 63 Subpart HH	<input type="checkbox"/> 40 CFR Part 60, Subpart KKK	<input type="checkbox"/> Other specify
Emissions Data					
Pollutants	Uncontrolled emissions (TPY)	Controlled emissions (TPY)	Estimated Atmospheric Emissions* (TPY)	Emission estimation method	
VOC					
NOx					
CO					
HAPs					
SOx					
GHG (CO ₂ e)					
Others					
Describe the function of this unit, include flow chart including all associated equipment and emission points:					
Remarks:					

*Based on 8760 hrs.

*Based on 8760 hrs.

SECTION H6. CONDENSATE OR MISCELLANEOUS STORAGE TANK INFORMATION (Copy this section to describe each unit)				
Tank ID:		Tank capacity (gallons):		Tank content(s)
Maximum Allowable Working Pressure (psig):			Tank Design Pressure (psig):	
Tank Content (Natural gas liquids (NGLs), Methyl or Ethyl Mercaptan etc.):			Vapor pressure of the content:	
Liquid/Gas Throughput (gallons/year):			Year(s) tank(s) were placed in service:	
Pressure Relief Valve Set Point: (psig of pressure)			Pressure Relief Valve Set Point: (psig of vacuum)	
Control Type*: *Also use appropriate form(s) under section H8. to provide further details		Year(s) tank(s) were placed in service:		
Control Efficiency (%):		Tank Throughput (gallons/year):		
Check all applicable Federal rules for this unit	<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR part 63 Subpart HH	<input type="checkbox"/> 40 CFR Part 60 Subpart K, Ka, or Kb	<input type="checkbox"/> Other specify
Emissions Data				
Pollutants	Uncontrolled emissions (TPY)	Controlled emissions (TPY)	Estimated Atmospheric Emissions* (TPY)	Emission estimation method
VOC				
HAPs				
GHG (CO ₂ e)				
Others				
Describe the function of this unit:				
Remarks:				

SECTION H7. STORAGE TANK (Pressure vessel) (Copy this section to describe each additional unit)	
Tank ID:	Maximum Allowable Working Pressure (psig):
Tank capacity (gallons):	Tank Design Pressure (psig):
Tank Content (Natural gas liquids (NGLs), Methyl or Ethyl Mercaptan etc.):	Vapor pressure of the content:
Control Description:	Control Efficiency:
Liquid/Gas Throughput (gallons/year):	Year(s) tank(s) were placed in service:
Liquid/Gas Temp (°F):	Pressure Relief Valve Set Point (psig): Rupture Disk Set Point (psig)
Is this pressure relief valve connected to an overflow storage tank?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Is overflow tank connected to an air cleaning device	<input type="checkbox"/> Yes <input type="checkbox"/> No
If yes, please provide overflow storage tank and air pollution control equipment details as asked on Section H6 for "CONDENSATE OR MISCELLANEOUS STORAGE TANK INFORMATION" and on Section H8 for "AIR POLLUTION CONTROL EQUIPMENT INFORMATION" using extra page. Include flow chart to identify the tank and the control:	
Remarks:	

SECTION H8.**AIR POLLUTION CONTROL EQUIPMENT INFORMATION**

(Copy this section to describe additional air pollution control equipment. Do not include engine or turbine control devices in this section.)

1. ADSORPTION EQUIPMENT**Equipment Specifications****Equipment ID:** _____

Equipment connected to which unit? (Attach schematic diagram)

Manufacturer: _____ Type (VRU etc.): _____ Make/ Model No.: _____

Design Inlet Volume (SCFM): _____ Adsorbent charge per adsorber vessel and number of adsorber vessels: _____

Length of Mass Transfer Zone (MTZ), supplied by the manufacturer based upon laboratory data.: _____

Adsorber diameter (ft.) and area ft².: _____ Adsorption bed depth (ft.): _____

Adsorbent information:

Adsorbent type and physical properties. _____ Overall Control Efficiency% _____

Working capacity of adsorbent (%): _____ Heel percent or unrecoverable solvent weight % in the adsorbent after regeneration. _____

Operating Parameters

Inlet volume (SCFM) _____ @ _____ °F

Adsorption time per adsorption bed _____ Breakthrough capacity: Lbs. of VOC / 100 lbs. of adsorbent = _____

Vapor pressure of VOC(s) at the inlet temperature _____ Pounds of steam to regenerate the carbon adsorber bed(if applicable) _____

Percent relative saturation of each VOC at the inlet temperature: _____

Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment: _____

Describe the warning/alarm system that protects against operation when unit is not meeting design requirements. _____

Check all applicable Federal rules for this unit ☐ 40 CFR Part 60, Subpart OOOO ☐ 40 CFR part 63 Subpart HH ☐ Other specify _____**Emissions Data**

Pollutants	Inlet (TPY)	Outlet (TPY)	Removal Efficiency (%)	Pollutants	Inlet (TPY)	Outlet (TPY)	Removal Efficiency (%)
VOC				PM _{2.5}			
HAPs				SO _x			
NO _x				GHG (CO ₂ e)			
CO				Others			
PM ₁₀							

Remarks: _____

2. OXIDIZER (Incinerator)			
Unit ID _____		Residence time _____	
Oxidizer gas flow rate (scfm) _____		Rated heat input _____	
Control Type (Catalytic, Thermal etc.) _____		Manufacturer _____	
Maximum Control Efficiency _____		Model No. _____	
Recommended Range of Operating Temperatures (Max and Min) _____		Date of Manufacture _____	
Fuel used _____		Date Installed _____	
Describe design features, which will ensure mixing in combustion chamber: _____			
Describe method of preheating incoming gases (if applicable): _____		Describe heat exchanger system used for heat recovery (if applicable): _____	
Catalyst used: _____	Life of catalyst: _____	Expected temperature rise across catalyst (°F): _____	Dimensions of bed (in inches): _____ Height: _____ Diameter or Width: _____ Depth: _____
Are temperature sensing devices being provided to measure the temperature rise across the catalyst? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____.			
Describe any temperature sensing and/or recording devices (including specific location of temperature probe in a drawing or sketch. _____			
State pressure drop range across catalytic bed (in. of water). _____		Describe the method adopted for regeneration or disposal of the used catalyst. _____	
Describe the warning/alarm system that protects against operation when unit is not meeting design requirements: _____			
Check all applicable Federal rules for this unit	<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR part 63 Subpart HH	<input type="checkbox"/> Other specify _____
Emissions Data			
Pollutants	Inlet (TPY)	Outlet (TPY)	Removal Efficiency (%)
VOC			
HAPs			
NOx			
CO			
PM ₁₀			
PM2.5			
SOx			
GHG (CO ₂ e)			
Others			
Remarks: _____			

3. FLARE				
Equipment Specifications				
Equipment connected to which unit? (Attach schematic diagram)				
Flare ID	Flare Type	Rating (mmBtu/Hr)		
Control Efficiency%	Constant Pilot Light	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Pilot Burner Rating (MMBtu/Hr)	<input type="checkbox"/> Yes		<input type="checkbox"/> No	
Check all applicable Federal rules for this unit	<input type="checkbox"/> 40 CFR Part 60, Subpart OOOO	<input type="checkbox"/> 40 CFR §60.18	<input type="checkbox"/> 40 CFR part 63 Subpart HH	<input type="checkbox"/> Other specify
Emissions Data				
Pollutants	Inlet (TPY)	Outlet (TPY)	Removal Efficiency (%)	
VOC				
NOx				
CO				
HAPs				
SOx				
Total Particulates				
GHG (CO ₂ e)				
Others				
Remarks				

4. VENT CONDENSER			
Equipment Specifications			
Equipment connected to which unit?		(Attach schematic diagram)	
Condenser ID:			
Condenser Type:		Make/ Model/Serial no:	
Coolant Type:		Coolant inlet & outlet temp	°F °F
Gas inlet & outlet temp	°F °F	Control Efficiency (%)	
Remarks			
Check all applicable Federal rules for this unit		<input type="checkbox"/> 40 CFR part 63 Subpart HH	<input type="checkbox"/> Other specify
Emissions Data			
Pollutants	Inlet (TPY)	Outlet (TPY)	Removal Efficiency (%)
VOC			
HAPs			
GHG (CO ₂ e)			
Others			
Remarks			

5. OTHER AIR POLLUTION CONTROL EQUIPMENT			
(Specify)			
Equipment connected to which unit?		(Attach schematic diagram)	
Equipment ID:			
Equipment Type:		Make/ Model/Serial no:	
Overall Control Efficiency%			
Remarks:			
List all applicable Federal and State rules for this device			
Emissions Data			
Pollutants	Inlet (TPY)	Outlet (TPY)	Removal Efficiency (%)
VOC			
HAPs			
NOx			
CO			
PM ₁₀			
PM _{2.5}			
SOx			
GHG (CO ₂ e)			
Others			
Remarks:			

SECTION H9.
FUGITIVE EMISSIONS FROM COMPONENT LEAKS

(Use extra page for each associated source/equipment if needed)

Associated Source/Equipment:

Leak detection methods used		<input type="checkbox"/> Audible, visual, and olfactory ("AVO") inspections		<input type="checkbox"/> Infrared ("FLIR") cameras		<input type="checkbox"/> Other Department approved leak detection monitoring devices		
Component Type	Count	Leak Emission Factors Lbs/Hr/component	Source of Leak Emission Factors (Specify if EPA Protocol or other Department approved method is used)	Stream Type (Gas/liquid etc)	Estimated Atmospheric Emissions** (TPY)			
					VOC	HAPs	GHG (CO ₂ e)	Other
Connectors								
Flanges								
Open-Ended Lines								
Pump Seals								
Valves								
Other*								

* "Other" equipment types may include compressor seals, relief valves, diaphragms, drains, meters etc.

Remarks:

Emissions Data

Emissions	Estimated Atmospheric Emissions (Lbs/Hr)	Estimated Atmospheric Emissions* (TPY)	Emission estimation method
VOC			
Total HAPs			
GHG (CO ₂ e)			
Other			

Remarks:

*Based on 8760 hrs.

SECTION H10. ESTIMATED ATMOSPHERIC EMISSIONS (TPY) ¹ FROM EACH SOURCE ² COVERED UNDER THIS GENERAL PERMIT (Use extra page as needed and attach all the emission calculations)																					
Sources	Pollutants																				
	VOCs		NOx		CO		HCHO		Total HAPs		PM ₁₀		PM _{2.5}		SO _x		GHG (CO ₂ e)		Other		
	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	Lbs/Hr	TPY	

¹Based on 8760 hrs.²Include fugitives from component leaks.

SECTION H11 TOTAL ESTIMATED ATMOSPHERIC EMISSIONS FROM ALL SOURCES¹ COVERED UNDER THIS GENERAL PERMIT (Attach all the emission calculations)		
Estimated Atmospheric Emissions ²		
Pollutants	Lbs/Hr	TPY
VOC		
NOx		
CO		
Formaldehyde (HCHO)		
Total HAPs		
SO _x		
PM ₁₀		
PM _{2.5}		
GHG (CO ₂ e)		
Others		

¹Include fugitives from component leaks.²Based on 8760 hrs. Include emissions from start-up and shut-down of engines and turbines.