



**Environmental
Protection Agency**

John Kasich, Governor
Mary Taylor, Lt. Governor
Scott J. Nally, Director

July 29, 2011

To: Interested Party

Re: Draft Shale Drilling Site Air Pollution General Permit

Dear Sir or Madam:

During the past several months, the Ohio EPA, Division of Air Pollution Control (DAPC) has been working to determine what, if any, air pollution requirements apply to well-site operations for the oil and gas industry, with an emphasis on Marcellus/Utica shale drilling. This work has been done in anticipation of significant growth in the Marcellus/Utica gas industry in Ohio.

The specific goals for this project include:

1. Understanding the activities and equipment used at a well site location;
2. Determine expected air pollution emissions to be generated from various well sites;
3. Determine any current applicable air pollution rules and regulations that apply to a well site;
4. Determine the need for or exemption from any applicable air pollution permits;
5. Determine the most efficient approach for applying for and obtaining any applicable air pollution permits; and
6. Develop and implement any necessary terms and conditions for any necessary air pollution permit.

Our overall goals are to make sure the well site operators know what they need to do to comply with any applicable air pollution requirements, to make sure well site operations do not cause any air pollution related adverse health and welfare effects, and to make any permitting processes as efficient as possible.

Historically, Ohio EPA has not required air pollution permits for oil and gas well sites, believing that no permits were required under our state rules¹. Based on our review and changes in the operation of the industry, it appears these underlying assumptions are no longer correct.

¹ Although no permits have been required for well site operations, Ohio EPA has historically required permits for gas processing operations like gas sweetening and for processes like gas compressor stations.

My staff has worked closely with industry contacts to understand what equipment is typically used at a well site. (We understand that some facilities may be different from what we developed.) We have spent a lot of time understanding the equipment, developing emissions estimates and reviewing applicable state and federal rules. We have gotten to the point of developing an initial draft of some permit terms and conditions for well site operations. This letter is being used to transmit the result of this work to all interested parties so that those that are affected can provide us with comments and suggestions before any final permit is proposed.

Note that the results of this work are simply our initial draft. We need comments from interested parties and fully expect to make changes based on those comments.

The Results of our Analysis

Based on the result of our rule analysis, our belief is that the typical activities that occur during the drilling and fracturing phase at a well site are exempt from any air pollution permit requirements. This is mainly because the equipment used (and the resulting air emissions) are temporary and are exempt from permitting requirements because they are temporary.

However, some of the equipment used during the production phase of the well are not exempt from permitting requirements and, therefore, need air permits.

The General Permit Program

Ohio's air pollution rules require owners or operators of non exempt air pollution sources to apply for and obtain an installation permit (known as a *permit-to-install* or a *permit-to-install and operate*) prior to beginning construction of any air pollution source². The installation permit describes all of the applicable rules that apply, and includes any applicable emission limits, operating restrictions, monitoring requirements, testing requirements and reporting requirements.

Ohio's rules also require owners or operators to obtain operating permits, although, in the case of non Title V facilities, the installation permit functions as the operating permit, so no further permit is required. DAPC expects most well sites to be considered non Title V facilities.

In order to improve efficiency, over the years, DAPC has developed several different permit processing approaches. One of these approaches is called the General Permit (GP) Program.

² Note that there are also special rules for portable sources that allow for their relocation without obtaining a new permit. See Ohio Administrative Code (OAC) paragraphs 3745-31-03(A)(1)(p) and 3745-31-05(H) found at: http://www.epa.ohio.gov/dapc/regs/3745_31.aspx.

A General Permit is the same as any permit-to-install or permits-to-install and operate that DAPC issues except all the terms and conditions of the permit have been developed in advance. This is referred to as the "Model General Permit" (MGP). A potential applicant can review the Model General Permit Qualifying Criteria, review the Model General Permit terms and conditions, then complete the application and sign the qualifying criteria document if they believe they qualify for that Model General Permit. DAPC will review the applicant's information to confirm they meet the qualifications and then issue the General Permit to the applicant. At that point it becomes the applicants "General Permit." All the terms and conditions of the "Model General Permit" remain the same when it is issued as the "General Permit." The General Permit will include a cover page that identifies facility and emission unit specific information.

The biggest advantage of the General Permit approach is the speed of approval. Normal permits are developed case-by-case and require a lot of detailed rule analysis and permit term development. For General Permits, all of this detailed analysis has been done up-front so that when a General Permit application comes into the agency, all staff need to review is the qualifying criteria to determine approvability. This can reduce approval times from 4-6 months down to as little as two weeks.

More details concerning this program can be found at:

<http://www.epa.ohio.gov/dapc/genpermit/genpermits.aspx>

DAPC decided that the General Permit approach was best for air permits for well sites.

Air Pollution Sources that need Permits

Our analysis determined that the following equipment/processes found at well sites typically need to obtain installation permits:

1. Dehydration System – consisting of Glycol dehydration unit (includes contact tower or absorption column and glycol dehydration unit reboiler) and Gas-condensate-glycol (GCG) separator (flash separator) controlled by an enclosed combustion or a vapor recovery device;
2. Spark Ignition Internal Combustion Engines – Stationary natural gas, spark ignition (SI), internal combustion engines (ICE); 1,555 total horsepower (HP) from the summation of all natural gas engines located at the facility;
3. Compression Ignition (Diesel) Engines - 2007 to 2010 model year stationary compression ignition (CI), internal combustion engines (ICE); 250 total horsepower (HP) from the summation of all diesel engines located at the facility;
4. Unpaved Roadways
5. Truck Loading Rack – for loading liquids to trucks;
6. Oil, Condensate, and Water Storage Tanks – Up to ten up to 16,800 gallon tanks are allowed under the proposed GP.

7. Combustion Device/Flare – To burn off any excess gasses produced;
8. Equipment/Pipeline Leaks - Equipment/pipeline leaks from valves, flanges, pressure relief devices, open end valves or lines, and pump and compressor seals in VOC or wet gas service.

DAPC has developed draft Qualifying Criteria and GP terms and conditions to cover the above equipment. Some facilities may have other equipment that may also need to be covered by the GP. If you have any questions about other equipment, please provide those in your comments.

Material that Needs Reviewed

Attached you will find the following documents:

1. Model General Permit (MPG) Qualifying Criteria Document
2. Natural Gas Extraction Well Site Draft GP

At this time we are asking any interested party to review these documents and provide comment.

The first document, the Qualifying Criteria, contains a form that companies must fill out and sign in order to obtain a General Permit. It contains qualifying criteria that limits the applicability of the General Permit to a specific subset of equipment found at a well site that is covered by this General Permit.

Review closely the terms and conditions in the draft GP. These terms contain detailed requirements that well site operators will have to meet once they obtain a GP. These terms are split up into multiple categories. The first category is the part *B. Facility-Wide Terms and Conditions*. This category contains terms and conditions that apply to the well-site facility as a whole. The second category is the part *C. Emissions Unit³ Terms and Conditions*. This section is further divided into sections that describe requirements for each emissions unit covered by the General Permit. In this case, part C is divided into the following emissions units:

1. Dehydration
2. Spark Ignition Internal Combustion Engines (natural gas fired)
3. Compression Ignition (Diesel) Engines
4. Oil, Condensate, or Water Storage Tanks
5. Tank Truck Loading Rack
6. Combustion Device/Flare
7. Ancillary Equipment Leaks
8. Unpaved Roadways

³ An "Emissions Unit" is a term used to describe a piece of equipment or an operation that produces air pollution, also sometimes know as an "air contaminant source".

Each part C emissions unit section is further divided into the following subsections:

1. Operations, Property and/or Equipment Description,
2. Applicable Emissions Limitations and/or Control Requirements,
3. Operating Restrictions,
4. Monitoring and/or Recordkeeping Requirements,
5. Reporting Requirements,
6. Testing Requirements, and
7. Miscellaneous Requirements.

Each emissions unit part C contains the specific requirements applicable to that particular emissions unit.

Part A of a typical permit is not included in this package. Part A contains Standard Terms and Conditions that are included in all air permits (not just well-site permits). These terms are not out for comment at this time and so they have not been included in this package.

Other Issues

The Qualifying Criteria require a property line that is 20 feet from the air pollution source and requires a stack height of the engines of 30 feet. Ohio EPA has not completed the computer modeling of the air emissions but believes that a property line and stack height will be needed. As such, these values are subject to change once the modeling is complete.

This General Permit is designed as a "true minor" facility, meaning that the potential emissions are not sufficient to trigger either the major New Source Review (NSR) rules or Title V rules. Ohio EPA plans to develop a similar GP for a "synthetic minor" facility where the potential emissions are above the major NSR or Title V trigger levels but are restricted to less than these trigger levels. This will be needed for well sites that use larger equipment than allowed under this GP.

Currently there are several court cases involving the issue of aggregating multiple well sites for the purpose of major NSR or Title V applicability. At this time, Ohio EPA believes that it is not appropriate to group multiple well sites together to determine applicability of these rules. However, once these court decisions are made, Ohio EPA will re-evaluate this issue and the GPs to make sure our program meets any decisions made by the courts.

It is Ohio EPA's understanding that most well site operators plan to recover hydraulic fracturing fluids for reuse at other well sites. When these fluids are recovered from the well, they will be placed in holding tanks until they are trucked to other sites. This

means that open storage fracturing fluid pits will not be used. As such, this GP does not include any permit requirements for open pits. If a company wishes to use an open pit, then a case-by-case permit may be needed.

In addition to the petroleum liquid tanks, Ohio EPA has included requirements for the production water storage tanks. However, Ohio EPA does not yet have enough information to determine the emissions levels and the number of various types of tanks needed, or if these tanks qualify for the permit exemption found in the rules (OAC rule 3745-31-03(A)(1)(I)). If it is determined that they are exempt, then they will not be included in any final GP.

Ohio EPA believes that the oil and condensate storage tanks do not qualify for the permit exemption for storage tanks because they operate more like a process than storage tanks. This is because of the significant quantities of flash gas that is emitted from these tanks.

Ohio EPA typically issues air permits for industrial roadways because of the significant quantities of dust that can be generated from vehicle traffic. Because of the limited traffic during the production phase of the well and the limited length of the roadways, it is not likely permits will be needed because insignificant emissions are expected. This version of the GP includes an emissions unit for roadways, but we expect these requirements to be dropped once a more detailed analysis of the roadway emissions can be completed.

Stand-alone gathering stations, gas clean-up operations, gas compressor operations or other similar operations are not covered by this GP. Many of these types of stand-alone operations associated with the oil and gas industry have typically been required to obtain case-by-case air permits. At this time, we expect that requirement to continue.

It is unclear at this point if a loading rack emissions unit will be needed. If most facilities don't use a separate loading rack (i.e., just load the materials from the tanks directly into the tank trucks), then a separate loading rack emissions unit will not be needed because the emissions will be accounted for in the storage tank permit.

On July 28, 2011, U.S. EPA issued proposed rules for Oil and Gas drilling operations. Ohio EPA has not yet reviewed these proposed rules and has not incorporated any requirements from these proposed rules into the draft General Permit. Once these rules become final, Ohio EPA will revise any General Permit to incorporate any of the new applicable requirements.

Deadline

We realize this is a lot of material to review. However, we are trying to get this process complete as soon as possible to address the needs of the industry and the citizens of

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Ohio. Therefore, we are asking you to review this material and provide comments by Friday, August 12, 2011.

What Comes Next

DAPC staff will review your comments and make any necessary changes to the Qualifying Criteria document and the Model General Permit terms. Once this task is complete, we will post the material for its formal 30-day comment period. If everything goes well at that point, then the General Permit could be ready for use several weeks after the 30-day comment period is up. If significant comments are received at that point, then it is unknown exactly when the final GPs will be complete, but we will strive to get them done as soon as possible.

If you have any questions, please do not hesitate to contact me at 614-644-3611.

Sincerely,



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Assistant Chief, Permitting, DAPC

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