

From: Collart, Linda (DEC)
Sent: Monday, June 22, 2015 4:22 PM
To: 'aschultz@couchwhite.com'
Subject: Request for Information - Snyder E 1-A Drilling Permit Application
Attachments: ProposedSnyder 1-A InformationRequest.docx

Division of Mineral Resources staff is reviewing the drilling permit application submitted by Tioga Energy Partners for the proposed Snyder E 1-A horizontal Marcellus Shale well and request that the applicant provide additional information to supplement the application as described in the attached document.

This document includes the Department's request to revise the spacing unit map so that the southern boundary of the spacing unit is 330 feet from the "Top of Formation" intersection with the wellbore. The unit size will be slightly reduced as a result of this revision and the revised acreage total should be carried through all application documents.

Additionally, the long-form EAF should be completed with respect to the proposed LPG hydraulic fracturing activities only. I have included a number of items to consider in the attached document; however it may be helpful if you can call me to discuss proposed revisions.

Please don't hesitate to contact me if you have any questions related to the requested information.

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REQUEST FOR ADDITIONAL INFORMATION – SNYDER E 1-A PROPOSED MARCELLUS SHALE WELL

The applicant is requested to provide the additional information detailed in the sections below to supplement the drilling permit application.

Spacing Unit Map

1. The spacing unit map must be revised so that the southern boundary of the spacing unit is 330 feet from the “Top of Formation” intersection with the wellbore. The distance to the unit boundary should be 330 feet along the entire length of the wellbore within the proposed target formation. Since the distances to the unit boundary from the top and bottom of the target formation are the same (330 feet), they should both be labeled on the spacing unit map. The unit size will be slightly reduced as a result of this revision and the revised acreage total should be carried through all application documents, including “Number of Acres in Unit.”

Drilling Permit Application Form and Supplemental Information

1. “Night, Weekend Address” cell on the drilling permit application form was left blank. If it is the same as above, indicate this in the cell.
2. Provide a diagram showing the well configuration and construction (including plugback depth, kickoff depth, hole sizes, casing and cement) to its total depth as described on the application form. The drilling permit application form indicates that production casing will be run to a depth of 6600 feet with the bottom of cement at 4050 feet. Should the bottom of cement also be 6600 feet? Please clarify this on the form and diagram.
3. Will cement bond logs be run? If they are, on what casings and when will they be run?
4. Provide estimated total duration to total depth for horizontal drilling, and running and cementing the production casing, and state days and hours that these operations will be conducted.
5. Financial security must be in place prior to permit issuance – see our website at <http://www.dec.ny.gov/energy/1622.html> . Mr. Christopher McKelvey with the Division of Mineral Resources in the Albany office should be contacted to discuss financial security requirements. Chris can be contacted by: telephone - phone number is 518-402-8056; email – christopher.mckelvey@dec.ny.gov .

Drilling EAF

1. Question 5e states that the location is not within an Agricultural District while the Long Form EAF, Page 12, Question E.3.a, says that it is. Please clarify and amend the EAF accordingly if any portion of the project will disturb land within an Agricultural District, and provide an acreage total for this disturbance.
2. Question 17 - Provide the name and location of the permitted facility that will receive drill cuttings.
3. Question 18 - Please clarify/state on the Drilling EAF that the coverage under the General Permit for construction stormwater management and SRBC applications will be submitted at a future

date.

Long-Form EAF

***The long-form EAF submitted should only address the proposed LPG hydraulic fracturing activities. The EAF should be revised to exclude activities associated with the drilling of the well or site construction since the well, access road, and well pad will be existing when the stimulation is performed.**

1. Section A. Project Contact boxes left blank. Since Clay Smith signed the EAF, should his name appear here? Clay Smith's title was not provided in the space on the last page of the EAF.
2. Questions C.3.b & c should be answered.
3. Question D.1.a – "Agricultural post construction" does not describe the general nature of the proposed action. Should it be "industrial"?
4. Questions D.1.b.b and D.2.e.i – should be re-evaluated since no new acreage would be disturbed by the action.
5. Question D.2.l – days/hours of operation need to be clarified for only the hydraulic fracturing operation and flowback.
6. Questions D.2.f, m, and r – references to drilling and drill cuttings should be eliminated.
7. Question E.3.a – answer to this needs to be in agreement with Drilling EAF
8. Question D.2.m.i. – Does not state the "time of day" when the action will exceed existing ambient noise levels. Sources, time of day and duration should only be provided for the hydraulic fracturing operation and flowback.

LPG Hydraulic Fracturing

***The applicant is required to submit additional information related to the proposed LPG hydraulic fracturing information as detailed below. Please note that if any of this information is considered to be trade secret or confidential business information, it must be accompanied by a written request (letter) for exception from public disclosure and should be provided on a separate page(s) from the information that is not trade secret or confidential business information. This request should be addressed to Tom Noll with the Division of Mineral Resources in the Albany office. No confidential information should be included in the permit application documents submitted electronically via e-Permit. The scaled plan view drawing of the site with the equipment placement was previously submitted through e-Permit and had a "confidential" label. If this document is intended to be considered confidential business information, it must be submitted separately with a written request for exception from public disclosure. If records are requested under FOIL, an opportunity to justify such confidential treatment will be afforded in accordance with 6 NYCRR Part 616.**

1. Provide estimated total duration of hydraulic fracturing operations (confirm approximately 11 days), and state days of week and hours that these operations will be conducted.
2. Provide a discussion of the benefits of LPG/propane stimulation.
3. Fracturing Fluid Chemical Disclosure:

- a. Provide the CAS Number for the "Mixed Alkyl Phosphate Ester" component of GellP-10 which is currently designated as "Trade Secret." If this constituent does not have a single CAS Number because it is a mixture, a list of all of the chemical constituents of the mixture, and their associated CAS Numbers, must be provided along with the percent by weight of every constituent within the mixture.
- b. The disclosure lists 4 chemical constituents for Activator XL-46D, however when the "maximum ingredient concentration in additive" values are totaled, these 4 constituents only account for 75% of the product, suggesting that there are additional chemical constituents that have not been disclosed. (The MSDS for this product confirms this in that it lists "non-hazardous components" within the "Composition Information on Ingredients" section.) The chemical names and associated CAS Numbers for all remaining chemical constituents of Activator XL-46D must be provided, along with their associated maximum ingredient concentrations in the additive and in the HF fluid.
- c. The Frac Treatment Proposal includes the use of Nitrogen and 2 Nitrogen MSDSs were included in the Fracturing Fluid section of the submission, however Nitrogen does not appear listed in the Hydraulic Fracturing Fluid Product Component Information Disclosure document. As such, please clarify whether Nitrogen will be used as part of the fracturing fluid. If it will be included, it should be listed in this disclosure document by its Trade Name, and information regarding its supplier, purpose, ingredients, CAS Number and maximum concentration in HF fluid should also be provided.
- d. The Fracturing Fluid section of the submission includes an MSDS for Diesel Fuel, and the Chemical Volumes and Locations document within this section lists Diesel Fuel and indicates that it is will be in the DOT tanks on all 17 units on the site. Since Diesel Fuel is not listed within the Frac Treatment Proposal or within the Hydraulic Fracturing Fluid Product Component Information Disclosure, it is assumed that it is not actually a component of the fracturing fluid and is instead the fuel source for the units on site. If this is correct, it should be made clear that Diesel Fuel is not a proposed component of the fracturing fluid by separating the MSDS from the "Fracturing Fluid" section of the submission and marking the "Chemical Volumes and Location" document to clearly indicate that Diesel Fuel (and any other relevant chemicals listed) is not part of the fracturing fluid.

4. Safety and Emergency Response Plans

It is acknowledged that the applicant submitted "Safety and Emergency Response Plans" which contain a number of the elements described below. However, the applicant's existing Plan for the proposed well stimulation should be amended to include all of the below listed elements, as applicable.

An Emergency Response Plan (ERP) describes how the operator of the site will respond in emergency situations which may occur at the site. The procedures outlined in the ERP are intended to provide for the protection of lives, property, and natural resources through appropriate advance planning and the use of company and community assets.

With regard to the proposed well stimulation, the ERP must address potential threats to public health and the environment from activities at the wellsite. The plan should include detailed descriptions of notification, reporting, and remedial measures to ensure that any non-routine incident related to well stimulation is addressed as quickly and as completely as possible.

The applicant in preparing the amended "Safety and Emergency Response Plans" should, at a minimum, consider and include the following elements, as applicable:

- Site name, type of operation, location (include copy of well plat with access road), and operator information;
- To facilitate emergency access, the above noted plat should have indicated thereon the decimal latitude and decimal longitude of the access road entrance in North American Datum 83;
- Identity and title of a knowledgeable and qualified individual(s) who will be on-site during well stimulation with the authority to respond to emergency situations and implement the ERP;
- Emergency notification and reporting (including a list of emergency contact numbers for the area in which the well site is located; and appropriate Regional Minerals' Office), key personnel, first responders, hospitals, and evacuation plan;
- Listing and timing of any pre-stimulation notifications, including coordinates of access road entrance, that would be given to the Department, county emergency management office, local fire/EMT responders or other entity;
- Description of use of any safety monitoring equipment such as propane sensors and/or infrared monitors that will be used to detect gas leaks;
- Identification and evaluation of potential release, fire and explosion hazards;
- Description of release, fire, and explosion prevention procedures, and response equipment that will be onsite during hydraulic fracturing and/or flowback operations.
- Implementation plans for shut down, containment and disposal;
- Site and employee training, exercises, drills, and meeting logs; and
- Security measures, including any signage, lighting, fencing and supervision.

Flowback

1. Provide total duration of flowback operations (confirm approximately 65 days), and state days of week and hours that these operations will be conducted
2. Will the site be continuously manned during the flowback phase?
3. It is stated that no waste is anticipated during flowback, and that should any waste produced would be disposed at a facility in Pennsylvania that is permitted to accept such waste.
 - a. Identify possible waste streams (e.g., brine, sand)
 - b. Provide a letter from destination facility stating that the facility has the capacity and will accept the waste.
4. It is stated that flowback will not be vented or flared unless there is an upset condition requiring temporary venting or flaring, and that recaptured LPG would be returned to the supplier.
 - a. How will any natural gas contained in the flowback be handled?
 - b. What would be the disposition of the natural gas?

5. It is understood that a refrigeration unit will be used to recapture flowback.
 - a. Will the refrigeration unit be running for the entire time stated in response to “duration of flowback” question?
 - b. How is the refrigeration unit powered?
 - c. What are the manufacturer stated sound levels of the refrigeration unit?
6. Will any LPG or natural gas be diverted to the flare stack during line or equipment purging?