



**MEMO**

**TO** Eric Gustafson *CG 3/16/17*  
District Manager  
Southwest District Oil and Gas Office  
District Oil and Gas Operations

**FROM** Thomas Donohue, PG *TD*  
Professional Geologist Manager  
Southwest District Oil and Gas Office  
District Oil and Gas Operations

**DATE** March 14, 2017

**RE** Pennsylvania General Energy (PGE) – Marjorie C. Yanity 1025 (API #063-31807)  
Disposal Well application to inject waste into an underground formation  
Grant Township, Indiana County

**I. Background**

On March 31, 2015, PGE submitted an application to change the use of the Marjorie C. Yanity 1025 well from a production well to a disposal well. In accordance with 25 Pa. Code Ch. 78.18, the application consists of a well permit application (DOW), Erosion and Sedimentation Control (E&S) and Post Construction Stormwater Management (PCSM) Plans, a Control and Disposal (C&D) Plan, the Class II Injection Disposal well application submitted to the U.S. Environmental Protection Agency's (EPA) Underground Injection Control (UIC) Program, and the issued EPA UIC permit. On June 1, 2015, the Department held a public meeting/hearing in Marion Center, PA to solicit comments related to PGE's application, and received comments from 35 commentors that were considered in the application review and incorporated into a Comment-response document.

**II. Application Review**

PGE's Marjorie C. Yanity 1025 application was reviewed with consideration of, among other things, applicable sections in the 2012 Pennsylvania Oil & Gas Act, the Oil & Gas Conservation Law, 25 Pa. Code Ch. 78, 91, 102, "Pennsylvania's Stormwater Best Management Practices", "Erosion and Sediment Pollution Control" and "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" program manuals.

This document summarizes the primary portions of the Departments's review, specifically, a DOW review, E&S/PCSM review, C&D review, geologic review and mechanical integrity review.

- DOW Review:
  - The DOW application consists of operator-answered questions, a Well Location Plat, notifications to interested parties and a Pennsylvania Natural Diversity Inventory (PNDI) search receipt. The application was reviewed by a DEP Licensed Professional Geologist who reviewed and analyzed answers to the operator-answered questions, reviewed the Well Location Plat, reviewed the PNDI, and confirmed information in the application against DEP's records. The application is complete and is in accordance with all applicable statutes and regulations in the 2012 Oil & Gas Act, the Oil and Gas Conservation Law and Pa. Code Ch. 78.
- E&S/PCSM Reviews:
  - The E&S Plan conforms with "Pennsylvania's Stormwater Best Management Practices" manual and applicable regulations in 25 Pa. Code Ch. 102. The plan demonstrates that when implemented, it will be adequate to minimize accelerated erosion and potential sediment impacts to surface waters.
  - The PCSM Plan conforms with "Pennsylvania's Stormwater Best Management Practices" manual and applicable regulations in 25 Pa. Code Ch. 102, and is adequate to control the potential volume, rate and water quality of post construction stormwater runoff.
  - See attached "Technical Review of the E&S Plan and PCSM Plan" memorandum for additional detail
- C&D Review:
  - The C&D Plan conforms with the Department's "Guidelines for the Development and Implementation of Environmental Emergency Response Plans" manual and applicable regulations in 25 Pa. Code Ch. 78. The plan identifies the control and disposal practices used by the well operator. The application also identifies pressure barriers to be used during identified operations. A pressure barrier is a physical or operational element incorporated into the well design to provide integrity throughout the life of the well (see Mechanical Integrity Review for additional pressure barrier details). See attached "Review of Pennsylvania General Energy, LLC Site Specific PPC/Control Disposal Plan" memorandum for additional detail.

- Geologic Review:
  - The Department performed a geologic review in accordance with 25 Pa. Code Ch. 91.51 that considered stratigraphy and geologic structures as mechanisms to eliminate potential pathways (coal mines, gas storage fields, other wells that penetrate the injection zone and faults) for injected fluid to reach water supplies and the basement rock within the EPA-defined ¼-mile Area of Review and a 1-mile buffer surrounding the Yanity well. Fluid injected into or proximate to basement rock is considered to be the mechanism that induced seismic events recently in Oklahoma and Ohio. The Department's geologic review in this case revealed no evidence that potential pathways exist for injected fluid to reach water supplies or basement rock, and it is improbable that injection of fluids would be prejudicial to the public interest. For the reasons set forth in the Department's geologic review memorandum, the Department concludes that the location of the proposed well makes it a suitable candidate for conversion from a production well to an injection well and recommends well permit conditions to address monitoring of seismicity in an abundance of caution. See attached "PGE – Indiana County Yanity Well #1025 Geological Review" memorandum for additional detail.
  
- Mechanical Integrity Review:
  - The Department performed a mechanical integrity review of the Yanity well and considered, among other items, well construction details, operating data, formation testing, injection procedures, plans for well failures and proposed monitoring. The mechanical integrity of the Yanity well is in compliance with regulatory well construction and operating requirements and is adequate for conversion from a production well to an underground injection well. With PGE's operation and monitoring plan and the Department's conditions (attached to the permit) the mechanical integrity will be monitored and subject to notification requirements. See attached "PGE – Indiana County Yanity Well #1025 Mechanical Integrity Review" memorandum for additional detail.

### **III. Summary**

The Department has determined that the application/project meets all applicable statutes, regulations and guidance manuals related to the permitting of a disposal well in Pennsylvania. The Department concludes that underground disposal into the Yanity well would be for an abatement of pollution by providing a lawful alternative to other disposal options. PGE's proposed operation is sufficient to protect surface water and water supplies, and it is improbable that disposal into the Yanity well would be prejudicial to the public interest.

I recommend issuance of API #063-31807, located in Grant Township, Indiana County with special conditions attached to the permit. Attached to this memorandum are the Yanity comment-response document and E&S/PCSM, C&D, Geological and Mechanical Integrity review memoranda. All documents related to this application and review will be kept in the well permit file #063-31807.

March 14, 2017

Attached: Marjorie C. Yanity #1025 Comment-Response  
Technical Review of the E&S Plan and PCSM Plan memorandum  
Review of Pennsylvania General Energy, LLC Site Specific PPC/Control Disposal Plan  
PGE – Indiana County Yanity Well #1025 Geological Review memorandum  
PGE – Indiana County Yanity Well #1025 Mechanical Integrity Review memorandum

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