

Platt, Steve

From: Judy & Paul Wanchism <jupaw@verizon.net>
Sent: Monday, November 04, 2013 7:21 PM
To: Judy Wanchisn; Platt, Steve
Subject: Comments on Draft UIC Permit PAS2DO13Bind Proposal
Attachments: Comments on Draft UIC Permit PAS2D013BIND.pdf

Steve.

Today is Nov. 4 and I realize it is the deadline for comments/questions/concerns for this UIC permit PAS2DO13Bind Proposal on the Marjorie Yanity well in East Run, Pa. I consulted an enviro-engineer and just received these comments after he looked over the draft permit. I did not revise them in anyway due to time constraints. The shutdown of our government did not help the process at all. I am submitting them as I forwarded the permit to him and he just got back to me today. Again the shut down has caused us a lot of time lost and down to the wire deadlines. I hope the file arrives and can be opened as I am not a computer expert in regards to different file formats. This is a 5 page document dealing with the draft permit in regards to:

- Legal background
- Comments
- EPA's Statement of Basis
- Highly fractured nature of the Huntersville Chert

Again...due to time constraints due to the shutdown of Government from Oct.1 to Oct. 16, 2013, I was not able to properly revise, edit where needed for the above PDF file. Requesting read receipt. jw

Thank you

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These comments are submitted in response to the extended comment period for UIC Permit PAS2D013BIND and the accompanying Statement of Basis for the proposed permit. The proposed permit will authorize the conversion of the Marjorie C. Yanity 1025 production well into a Class II-D brine disposal Injection Well and to allow the operation of the Injection Well for the purpose of injecting fluids produced in association with Pennsylvania General Energy's (PGE) oil and gas production operations into the Huntersville Chert Formation.

As these comments will demonstrate, the Applicant has not met its burden to demonstrate that its injection will not cause endangerment of underground sources of drinking water. The Draft Permit should be denied or significantly revised. Because the endangerment standard has not been met, EPA does not have the authority to issue the permit.

Legal Background

In determining whether to issue any Underground Injection Control (UIC) permit, Congress required that "the applicant for the permit to inject must satisfy the [permitting authority] that the underground injection will not endanger drinking water sources." [42 U.S.C. § 300h(b)(1)(B)]. Congress established a minimum standard for endangerment of drinking water sources as the following [*Id.* at § 300h(d)(2)]:

Underground injection endangers drinking water sources if such injection may result in the presence in underground water which supplies or can reasonably be expected to supply any public water system of any contaminant, and if the presence of such contaminant may result in such systems not complying with any national primary drinking water regulation or may otherwise adversely affect the health of persons.

EPA has issued regulations that define the underground sources of drinking water (USDWs) that must be protected as "an aquifer or its portion...which contains a sufficient quantity of ground water to supply a public water system; and...contains fewer than 10,000 mg/l total dissolved solids" [40 C.F.R. § 144.3 (a)(2)(ii)].

Comments

- 1. The Statement of Basis for the Yanity 1025 Well does not show all the input values, their rationale for inclusion, nor the resulting AOR/ZEI calculations performed by EPA; this did not allow the public a meaningful opportunity to comment on EPA's assumptions and AOR determination.**

The Applicant used a fixed radius for a proposed Area of Review (AOR); however, EPA calculated its own AOR and Zone of Endangering Influence (ZEI) for the Yanity 1025 Well (using the modified Theis model) in the Statement of Basis. EPA's rules

40 CFR 146.22 (g) states:

At a minimum, the following information concerning the injection formation shall be determined or calculated for new Class II wells or projects:

- (1) Fluid pressure;
- (2) Estimated fracture pressure;
- (3) Physical and chemical characteristics of the injection zone.

These must be clearly listed in the Statement of Basis. Therefore, EPA should revise the Statement of Basis to include the derivation of its reservoir modeling input values and any other calculations that helped the agency determine the proper AOR and the maximum injection pressure since the agency apparently relies on that information to form the basis of its opinion that the maximum injection pressure will ensure that USDWs will not be endangered by the proposed injection due to induced seismicity.

2. EPA's Statement of Basis fails to meet the Endangerment Standard by failing to characterize rock properties and Net Fluid Balance to determine the potential for fault failure.

EPA should require that the Applicant provide scientific data to allow the agency to properly determine the potential for an induced seismic event due to the proposed injection activity. EPA did not require the Applicant to provide information on any of the recommended site assessment criteria developed by the EPA Underground Injection Control National Technical Workgroup in November 2012 [EPA Draft on Minimizing and Managing Potential Impacts of Induced-Seismicity from Class II Disposal Wells: A Practical Approach, *available at*: http://www.eenews.net/assets/2013/07/19/document_ew_01.pdf].

EPA should also follow its own draft guidance in the area of well operations, monitoring and management (*Id.* at 30-33). In addition, EPA should require the Applicant to evaluate and provide data on regional rock stress components, which would allow the agency to estimate the potential for fault failure due to localized injection zone pressure increases, and net fluid balance as recommended by the National Academy of Sciences (National Academy of Sciences study, p.1). This would allow the agency to make an educated determination about seismicity before permit issuance *and* EPA could provide the required information in the statement of basis for public evaluation and comment.

Calculations of critical shear stresses and rock failure envelopes can be determined through the use of rock properties data gathered from whole cores taken from the injection zone during well drilling. EPA should request that cores be gathered and petrophysical analyses performed. After subjecting that information to public notice and comment, EPA may determine whether the endangerment standard has been met.

- 4. Oil/Gas Extraction Wells were designed to extract fluids under negative pressure; they were not designed to withstand the long-term positive pressures common to fluid injection wells.**

The casing seat cements of oil/gas wells are designed for a maximum of 350 psi and the inner casing for 1200 psi. These designs are inadequate for the allowable maximum injection well surface casing pressures of 2933 psi.

- 5. The integrity of the outer protective casings of an old well cannot be tested (only the innermost casing can be tested).**

Since the well was constructed in the past, there is no way to test the existing outer casings; therefore, the integrity of the entire well string cannot be assured.