

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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IN RE: PUBLIC COMMENTS

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BEFORE: TERRY FLETCHER, Chair  
ANDREW LOCKWOOD, Member  
CONNIE ANDERSON, Member  
ROGER HELDMAN, Member  
JESSICA MOORE, Member

HEARING: Friday, July 23, 2021  
6:05 p.m.

LOCATION: Zoom Virtual Hearing

WITNESSES: Aileen Curfman, Hannah King, Samuel Taylor

Reporter: Jennifer Wilson

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NONE OFFERED

## P R O C E E D I N G S

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CHAIR: Okay.

So good evening everyone. I appreciate everyone joining us. Welcome to the West Virginia Department of Environmental Protections, Virtual Public Hearing on proposed changes to Legislative Rule 47 CSR 13, underground injection control rule. Just to give a little bit of backdrop on CSR 13. The DEP has proposed to update and formalize current requirements to better ensure consistency with federal regulations.

These rules set forth criteria and standards for the requirements, which apply to the state injection control program. The UIC program regulates underground injections by six classes of wells. And the six classes of wells are set forth in section four of this rule. All owners or operators of these injection wells must be authorized either by permit or rule by the director. The current rule addresses five classifications of injection wells.

And the changes affect all five, and proposes an addition of a sixth well type. So proposed changes to class --- class one through five wells are to update and formalize current requirements to better

1 ensure consistency with federal regulations. Class six  
2 wells are for carbon capture and sequestration. And  
3 currently the federal rule applies to these wells and the  
4 DEP is seeking to add them 47 CSR 13, to issue state  
5 permits provided that the U.S. EPA delegates class six  
6 programming implementation to West Virginia.

7           The proposed rule is available in its  
8 entirety on the secretary of state website. And I will  
9 add that link to that rule in the group chat now. So  
10 feel free to copy that link, so that you can view it at  
11 your leisure.

12           The purpose for tonight's hearing is to  
13 take additional comments on this proposed rule. Not to  
14 engage the DEP in open debate or for the agency to answer  
15 questions. A decision will not be made this evening.  
16 The DEP will review all submitted comments and issue a  
17 response to comments document with the agency's final  
18 determination. The court reporter is in attendance and  
19 all comments given tonight will be made part of the  
20 official record.

21           In order to have an accurate record of  
22 attendees, we'd ask that you please enter your first and  
23 last name, as well as any groups that you are affiliated  
24 with or representing. As well as your email address into

1 the meeting chat. The email address you include will be  
2 how you receive the agency's final determination. The  
3 mini-chat will also be made part of the official record.

4 The comment period will end at the conclusion of  
5 tonight's hearing. And written comments can be submitted  
6 via email to Connie Anderson at the DEP.

7 And you can submit that to her email at  
8 Connie, that's C-O-N-N-I-E, dot, J as in Joseph, dot,  
9 Anderson, @wv.gov. And I can have that email address to  
10 mini-chat as well, in case you need to send your written  
11 comments.

12 Each commenter tonight will be given five  
13 minutes to speak. If time allows, we will circle back to  
14 allow for additional comments. If you wish to speak, we  
15 ask that you use the raise hand function and I will call  
16 on speakers as they appear on my screen. If you are  
17 joining us by phone and dialing in, you can use star nine  
18 to raise your hand and star six to mute and unmute.

19 Again, we ask that you please clearly  
20 state your name. And if you represent any groups or  
21 organizations. We ask that everyone stay muted unless  
22 you have been called upon to give your comments. We'd  
23 also ask that you please stay on topic and be respectful.

24 Foul language, personal attacks or insults will not be

1 tolerated.

2                   It looks like we had a late addition. So  
3 I just wanted to circle back. We're going to give  
4 everyone five minutes to speak, who wishes to. And then  
5 if we have additional time, we'll allow for more  
6 comments. We'll call on folks as they appear on the  
7 screen. And if you wish to speak, please use the raise  
8 hand function and we'll call upon you as they appear.

9                   With that being said, we will begin the  
10 comment portion of the hearing. So if you wish to make a  
11 comment, we'd ask that you please raise your hand now.  
12 And we'll call on folks as they appear.

13                   Okay.

14                   So first up we have Aileen Curfman,  
15 followed by Hannah King. So Ms. Curfman, you have the  
16 floor.

17                   MS. CURFMAN: My name is Aileen Curfman  
18 and I am presenting these comments on behalf of the West  
19 Virginia Sierra Club. The Sierra Club appreciates the  
20 opportunity to comment on this draft rule, because  
21 significant environmental risks remain with underground  
22 injection of the diverse materials to be regulated under  
23 this rule.

24                   In particular the use of class six wells

1 reveal object sequestration of carbon dioxide may become  
2 widespread in the future and carry significant risks that  
3 are not fully understand. Carbon cap and sequestration,  
4 CCS, could play a large role in the deep reductions in  
5 greenhouse gas emissions needed to mitigate greenhouse  
6 gas emissions from fossil fuel fired power plants and  
7 other large industrial facilities.

8               Because this program is still largely  
9 experimental, we believe that the regulatory program for  
10 CCS, should be constructed using a precautionary  
11 principle until such time as the technology is  
12 demonstrated to be safe. Due to the extremely large  
13 volumes to be injected, class six wells are likely to  
14 extend over an area that is unprecedented in previous UIC  
15 projects.

16               A single major accident resulting from  
17 inadequate regulatory oversight could seriously endanger  
18 the future viability of geologic sequestration for  
19 greenhouse gasses. We also believe that West Virginia  
20 DEP needs to establish a more comprehensive regulatory  
21 framework. The Safe Drinking Water Act, under which the  
22 UIC program is established is not a sufficient scope to  
23 address the numerous diverse issues associated with CCS.  
24       Issues such as determining property rights for core



1 space, transfer for liability of others, are beyond the  
2 scope of the Safe Drinking Water Act.

3           Because carbon dioxide is heavier than  
4 air, leakage from the CCS well, given the tremendous  
5 volumes of high pressures has the potential of creating a  
6 cloud of carbon dioxide that would move down gradient and  
7 suffocate all life in its path. In particular a CCS  
8 facility must demonstrate that the carbon dioxide can be  
9 permanently sequestered greater than 100 years without  
10 leakage. Lead, air, water and energy requirements need  
11 strict site evaluation to avoid environmental justice  
12 issues and adverse environmental impacts. Most CCS wells  
13 would likely be established near emitting facilities,  
14 further burdening communities already disproportionately  
15 burdened by pollution, noise, traffic and degraded  
16 property values.

17           It is not clear that West Virginia DEP's  
18 enforcement programs have the resources and staff needed  
19 to properly manage a class six well program. A recent  
20 report of West Virginia DEP's existing class two wells  
21 found that 17 of 19 wells analyzed had at least one issue  
22 of concern. But lax enforcement has allowed those  
23 concerns to continue unabated. Adding the much more  
24 complex issues associated with class six wells will

1 certainly exacerbate this problem.

2           UIC permit fees for class one through five  
3 wells are described in 47 CSR 9, but there does not  
4 appear to be a permit fee schedule for class six wells.  
5 This implies that the costs of running the program and  
6 reviewing an application will be an unfunded mandate and  
7 consume existing resources. The cost of permit review  
8 and enforcement should be a cost of doing business borne  
9 fully by the applicant. And the taxpayer should not have  
10 to subsidize these activities.

11           For this reason, West Virginia DEP should  
12 consider delaying any efforts to obtain primacy for class  
13 six wells, until liability for accidents has been  
14 addressed adequately by the West Virginia Legislature.  
15 As of such legislative action, West Virginia DEP should  
16 analyze the potential liability costs that would be  
17 incurred by the state and its taxpayers in case of an  
18 accident and include those costs in their calculation of  
19 permit fees. If the West Virginia DEP chooses to seek  
20 primacy, we recommended that the West Virginia rules,  
21 regulating such wells follow EPA rules as closely as  
22 possible.

23           We have also submitted written comments  
24 that address specific recommendations. Thank you. If

1 there is time later I can circle back to those.

2 CHAIR: Okay.

3 Thank you, Ms. Curfman. Next we have  
4 Hannah King. Hannah, you have the floor.

5 MS. KING: Hi. Thank you for the  
6 opportunity to speak tonight. My name is Hannah King and  
7 I am here on behalf of the West Virginia Environmental  
8 Council to speak about the issues regarding 47 CSR 13,  
9 the underground injection control rules. There are many  
10 facets in the rule that are of concern and need  
11 strengthened. But the most important piece of this new  
12 rule pertains to the area of review.

13 This must be increased for all well types,  
14 especially for class six wells, as these are to be newly  
15 established in our state and will likely allow a high  
16 amount of product to be injected. Along with increasing  
17 the area of review, a study and assessment of seismic  
18 activity reviews are necessary and should be required to  
19 determine what kind of geology lies beneath the surface  
20 before any injection occurs. Project productivity  
21 depends on the injection well location, that is the  
22 tectonic and geo-mechanical condition of formations and  
23 to which fluid is injected.

24 Local geology plays a large factor in

1 earthquake occurrences. So it is essentially that this  
2 information is provided beforehand. A 2012 report from  
3 ProPublica using data from the EPA showed that from 2008  
4 to 2010, there were 620 violations from 4,815 underground  
5 injection wells here in West Virginia. In comparison  
6 there were 703 well violations out of 31,549 underground  
7 injection wells in New York.

8               This data is concerning, especially as the  
9 DEP has been understaffed in a few departments for quite  
10 some time. If fees were increased for permits, more  
11 staff could be hired to inspect and regulate these wells  
12 to ensure accountability and keep violations to a  
13 minimum. Please consider adding these revisions and  
14 strengthening the rules to allow for safer practices and  
15 fewer violations. The West Virginia Environmental  
16 Council also fully supports the technical comments that  
17 were submitted by West Virginia Rivers Coalition. Thank  
18 you for your time.

19               CHAIR: Thank you. Do we have any other  
20 speakers? Anyone else who wishes to make a comment?  
21 We'd ask that you please raise your hand. It looks like  
22 we have a Samuel Taylor. Mr. Taylor, you have the floor.

23               MR. TAYLOR: Good evening, everyone. My  
24 name is Samuel Taylor. I am an assistant director for

1 the West Virginia University Energy Institute. We have  
2 submitted written comments in support of the proposed  
3 rules here. And I'll make some brief comments that ---  
4 that align with my written comments. So first of all I'd  
5 like to thank you for the opportunity to comment on this  
6 proposed rule.

7                   The WVU Energy Institute is the  
8 coordinating institution for energy research in West  
9 Virginia University. And we work with stakeholders  
10 within the university across the state and region to help  
11 stimulate energy and environmental and economic  
12 development in the State of West Virginia. On behalf of  
13 WVUEI, we are pleased to provide comments on this  
14 proposed amendment for the underground injection  
15 controls, including the addition of class six carbon  
16 sequestration rules.

17                   Overall, WVUEI, the energy institute, is  
18 strongly in support of WVDEP obtaining primacy for class  
19 six injection wells, and thus having coordinated  
20 oversight for the range of UIC wells within West  
21 Virginia. We also believe that WVDEP obtaining class six  
22 primacy and developing clear regulatory language removes  
23 a key barrier to the growth of CO2 capture, utilization  
24 and sequestration industries in West Virginia, as well as

1 providing new options for existing industries to meet  
2 future CO2 regulation in the state.

3           And while we support the primacy request  
4 through DEP, there are a few items that would need  
5 further clarification and a final rule. First of those  
6 is establishment of clear guidelines fro the transition  
7 of other classes of UIC wells to class six. Currently  
8 enhanced petro-chemical recovery, either enhanced oil  
9 recovery or enhanced gas recovery, are the most common  
10 pathways for CO2 utilization in the industry. West  
11 Virginia has a history of enhanced recovery projects,  
12 which are currently managed under class two. While  
13 steps are outlined in the proposed rules, more specific  
14 definition for transition would be helpful to both  
15 operators and regulators.

16           Second recommendation is better definition  
17 of seismic risk zones. Avoiding seismic risks is key for  
18 these projects. However, the definitions you used in the  
19 proposed language are somewhat confusing, based on our  
20 review of the literature. We provided an example map  
21 from the United States Geological Survey in our comments.  
22 And just use that as an example to help maybe better  
23 understand how the seismic risk zones and their  
24 definition is --- is defined in the regulations.

1           And finally we would recommended that the  
2 West Virginia Geological and Economic Survey be engaged  
3 substantially in both the seismic risk questions and in  
4 support of review of these wells. The geologic survey  
5 provides extensive support for the oil and gas industry  
6 and its regulation in West Virginia. And we recommend a  
7 cooperative engagement of survey and for technical and  
8 feasibility reviews of any proposed class six project,  
9 including review of projects that would transition from  
10 other well classes to class six.

11           I'll withhold any further comments now, to  
12 see if there's time at the end of the meeting. Thank you  
13 for the time this evening.

14           CHAIR: Thank you, Mr. Taylor. Do we have  
15 any other commenter's, anyone else who wishes to speak?  
16 Raise your hand now. I'm not seeing anyone new. And if  
17 I'm missing someone, please speak up now. Okay.

18           Any previous speakers who wish to make  
19 additional comments, please raise your hand. Ms.  
20 Curfman, you have the floor.

21           MS. CURFMAN: Yes.

22           We have submitted numerous specific  
23 comments. With our comments, I will not touch on every  
24 one of them. But I wanted to just touch on a couple of

1 the more major ones. One is the section 14.2, defines  
2 class two wells to include fluids brought to the surface  
3 in connection with natural gas storage. However,  
4 development of gas storage mining, solution mining and  
5 salt caverns seems to be more appropriately described as  
6 a class three well.

7           At least one gas storage site in Ohio  
8 plans to develop the storage by solution mining in salt  
9 strata. And minimum class two wells should be limited to  
10 fluids during operation of gas storage and not those  
11 produced during development via solution mining. And  
12 also the area of review, very similar comments both to  
13 what Ms. King and Mr. Taylor mentioned. And that the  
14 area of review should require inclusion of seismic  
15 activity reviews.

16           The rules should establish setbacks for  
17 injection wells for residences, streams, public water  
18 supplies and other sensitive facilities. Leakage of  
19 underground fluids are almost impossible to clean up.  
20 Rules in Ohio use a distance of 2,000 feet from a five  
21 year time of travel zone from the public water supply.  
22 And this should be a bare minimum, with larger setbacks  
23 mandated for residences, public water supplies and other  
24 sensitive facilities where conditions warrant.



1           And 8.2.C, there are several subsections  
2 which indicate that cement should be of sufficient  
3 quality and quantity. But there is no objective measure  
4 of what is sufficient. The language should be replaced  
5 with numeric criteria or an objective evaluation test of  
6 what is sufficient.

7           And the last one that bears mentioning  
8 tonight. We support the provisions in section 8.4.B.9E.

9     The director may require seismicity monitoring when he  
10 has reason to believe that the injection activity may  
11 cause seismic disturbances. And 8.5.A.3A, the protocol  
12 used to identify all wells within the area of review and  
13 then determine if the wells are properly plugged.  
14 However, we recommend that both these provisions so that  
15 seismic monitoring and protocols that identify all wells  
16 and their property plugging be required of all  
17 applicants.

18           The remainder are in the written comments  
19 that we submitted. And you'll need to go through them  
20 one by one, because some of them are detailed. A gain,  
21 thank you very much for the opportunity to comment  
22 tonight.

23           CHAIR: Thank you, Ms. Curfman. Do we  
24 have any other speakers who wish to make additional

1 comments? I am not seeing any --- any hands raised. I  
2 am going to give one last call for speakers or  
3 commenters, anyone who wishes to comment. This is your  
4 final opportunity. Going once. Going twice.

5 Okay. All right.

6 There being no more speakers, this will  
7 conclude the DEP's virtual public hearing on proposed  
8 changes to Rule 47 CSR 13, underground injection control  
9 rule. A gain, the copy of the proposed rule is available  
10 on the secretary of state website, which I have added to  
11 the meeting chat. And I will add again for anyone who  
12 may have joined and has not had a chance to see that.

13 And we also ask that if you haven't yet  
14 please enter your first and last name, any groups that  
15 you're affiliated with and your email address in the  
16 meeting chat so that we have an accurate count of the  
17 attendees and so that you can receive the agency's final  
18 determination. So please do that before you leave the  
19 hearing. The comment period is now closed. We want to  
20 thank everyone for joining us and for taking the time to  
21 attend this hearing. I hope everyone stays safe and has  
22 a good weekend. Thank you.

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24 HEARING CONCLUDED AT 6:26 P.M.

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CERTIFICATE

I hereby certify, as the stenographic reporter, that the foregoing proceedings were taken stenographically by me, and thereafter reduced to typewriting by me or under my direction; and that this transcript is a true and accurate record to the best of my ability.

Dated the 31 day of July, 2021

A handwritten signature in cursive script, appearing to read "Jennifer Wilson", is written over a horizontal dotted line. A vertical dotted line extends upwards from the right end of the horizontal line.

Court Reporter