

Arizona Underground Injection Control (UIC) Program Draft Rules

Summary Comments From External Stakeholders Due 12/13/19

Preliminary Note:

Comments herein have been numbered, referenced to the Draft Rule, edited for grammar, formatting and have been paraphrased for clarity when necessary.

General Comments:

- 1. General** – Commenter states, "in response to your first UIC meeting I can only say that I am profoundly against ANY injection of toxic wastewater, or produced water into, through, or anywhere near our aquifer. Also, as a landowner with a well, I am curious about you referring to me as your 'customer'. I look forward to the next meeting."
- 2. General** – Commenter states that cavern construction for the purposes of storing gases, fluids, or solids is not addressed in the proposed Rules.
- 3. General** – Commenter states that the use of the term "mining" should be defined for the purposes of Well Classification. Under federal case law, "mining" is the act of extraction of minerals for the purpose of selling the product. When caverns are constructed "mining" is used in the engineering sense of removing salt, or other soluble minerals by dissolution.
- 4. General** – Commenter states that appropriate classification of cavern wells after mineral extraction has been a vague aspect of the UIC program since its inception. In some states, cavern storage of natural gas is classified and regulated as Class II storage wells. In others, they are regulated as Class III during construction and then reclassified as Class I, II, or V depending on the substance being injected. Examples of non-natural gas storage caverns include Class I wells for slurry injection of non-hazardous wastes, hazardous waste such as drill cuttings, low level NORM; storage of gases (natural gas, natural gas liquids, hydrogen, and compressed air), and electrolytic brines (proposed of large volume, energy storage). The rules should explicitly address the classification of constructed cavern wells and what, if any, reclassification would occur when extraction of the mineral stops. Another area where change of classification may become relevant is the conversion of Class II wells to Class VI.
- 5. General** – Commenter states, "It is sad and alarming that we are spending time trying to come up with a safe and economically advantageous way to gamble with our precious water. And it is a gamble. It's not a matter of if there will be an accident. It's a matter of when will the accident happen, and how bad will it be? That is simply the nature of the

industry that mines the earth and then looks for ways to dispose of the toxic waste that is produced from that activity. Injecting any substance into the ground anywhere near an aquifer is a gamble, and a bad idea, unless that substance is something we wouldn't mind drinking. Also, streamlining the process of giving permits to "safely" inject undrinkable chemicals through, above, below, or next to our aquifer seems like another bad idea. Are we so hypnotized by the lure of profit that we lose sight of logic? Right now the Arizona departments responsible for protecting our water are beyond being incredibly understaffed. Is this a portent of Arizona's future? I encourage you to read these comments at your next meeting."

6. **General** - Commenter verified the Table of Contents with the body of proposed rule, clarifying where sections actually exist via pagination.
7. **General** - Commenter recommends, if any changes are made, please look through the document to copy these changes in all Classes of well locations.
8. **General** – Commenter asks to square up code with existing case law; specifically, 17 E.A.B. 406, 943 F.2nd 867, also E.A.B. cases: *In Re Beland Group* & *In Re American Soda*.
9. **General** - Commenter states that the footprint of a state permit issued through UIC will not interface with ESA listed species.
10. **General** - Commenter asks, what is the NEPA / UIC interface?
11. **General** - Commenter asks, where is the funding for the AZ UIC program coming from?
12. **General** - Commenter states, duplicative permitting in APP & UIC in Class V must be resolved or primacy will not be achieved.
13. **General** - Commenter states, is there an equivalent NEPA process built into UIC?
14. **General** - Commenter states concern over NEPA & NHPA not being applicable to UIC. Commenter also asks about the SHPA?
15. **General** - Commenter states concern over "excursions outside of exemptions."
16. **General** - Commenter asks, will another draft of the rule would be released prior to the commencement of Formal Rule-Making?
17. **General** - Commenter requests another tribal listening session before Formal Rulemaking and states concern over Tribal Consultation.

- 18. General** – Referring to 40 CFR 124, commenter states, “why not adopt AZPDES language, since we know EPA likes it and it works?”
- 19. General** - Commenter generally asks DEQ to drop the administrative review part of the rule.
- 20. General** - Commenter states concern for partial primacy and Class V wells being redundantly permitted through UIC vs. APP.
- 21. General** - Commenter recommends that the following provision be included within the UIC program rules, "Pursuant to A.R.S. §§ 49-203(A)(5), 49-203(A)(8), 49-104(C)(1) and 49-210(0)(10), the Director shall assess and collect fees; deposit the monies into the water quality fund established under A.R.S. § 49-210; and use those monies to cover the Director's costs of processing UIC permit applications and submittals made pursuant to UIC permits, conducting inspections and oversight necessary to ensure compliance with the UIC program rules, and otherwise implementing and administering the UIC program."
- 22. General** - Commenter states, compliance with permit is compliance with SDWA - except Class II & Class III.
- 23. General** - Commenter requests a requirement for Individual Permits nearby to mitigate wells/projects.
- 24. General** - Commenter asks, "How will the UIC Program be integrated into the Aquifer Protection Permit Program?"

Word Choice Recommendations:

- 25. R18-9-A601.D** – Commenter recommends changing "his or her" to "the Director's."
- 26. R18-9-B608.C & D** - Commenter recommends changing the language, "he or she" to "the Director."
- 27. R18-9-B613.E** - Commenter recommends changing the language, "he" to "the owner or operator."
- 28. R18-9-B614.A.4** - Commenter recommends changing the language, "he" to "the Director."
- 29. R18-9-C616.C** - Commenter recommends adding the words, "complete, sign and..."

30. **R18-9-C623.A** - Commenter recommends changing the language, "he or she" to "the Director."
31. **R18-9-C626.B.6** - Commenter recommends changing the language, "he or she" to "the Director."
32. **R18-9-C632.B** - Commenter recommends changing the language, "he or she" to "the Director."
33. **R18-9-C632.C** - Commenter recommends changing the language, "he or she" to "the Director."
34. **R18-9-C632.F** - Commenter recommends changing the language, "he or she" to "the Director."
35. **R18-9-C633.A** - Commenter recommends changing the language, "he or she" to "the Director."
36. **R18-9-D637.13.b.2** - Commenter recommends changing the language, "he" to "the Director."
37. **R18-9-D637.17.b** - Commenter recommends changing the language, "he" to "the Director" & then "his or her" to "the."
38. **R18-9-G648.A** - Commenter recommends changing the language, "he" to "the Director."
39. **R18-9-J662.A.5.c** - Commenter recommends changing the language, "he" to "the Director."
40. **R18-9-J670.B.2** - Commenter recommends changing the language, "he or she" to "the Director."
41. **R18-9-J672.E.1** - Commenter recommends changing the language, "his or her" to "the Administrator."
42. **R18-9-E642.D.2.a.ii** - Commenter recommends, should be an "and" vs. an "or".

Referenced Comments:

43. **R18-9-A602.E** – Commenter recommends adding, “and bounded by one or more confining beds or zones”. Commenter states, as defined, -- aquifer, confining zone,

confining bed -- lack definitions that relate these subsurface bodies.

44. **R18-9-A602.K** – Commenter states, “Cementing” should include the concept of the cement filling the void space between the in situ rock face and the casing intended on creating an impermeable barrier that prevents the migration of fluids into unintended zones and protects the back-side of the casing from corrosion. Under the API code cement is an additional protective barrier.
45. **R18-9-A602.N** – Commenter states, “Confining Zone” can limit the flow of fluid laterally, or downward as well. Lateral confinement is an important concept given the nature of the Tertiary sediments in intermontane basins in Arizona.
46. **R18-9-A602.O** – Commenter recommends adding “that is not native to the injection zone and that substantially degrades the water quality.” Commenter states, the concept of contamination has two tests: 1) is it a foreign constituent to the water body receiving it, and 2) is it materially adverse to the water body receiving it.
47. **R18-9-A602.FF** – Commenter recommends adding “or traceable in the subsurface based on acoustic, electrical or other geophysical properties”. Commenter states, a difficulty in geology is that lithic homogeneity observed in outcrop is not necessarily mappable in the subsurface because subsurface techniques rely on geophysical, rather than physical properties.
48. **R18-9-A604.B.3** – Commenter states that classification identifies Class II wells for storage of hydrocarbons which are liquid at standard temperatures and pressure (oil and condensate, but not natural gas or natural gas liquids with low vapor pressures).
49. **R18-9-A604** – Commenter states that classification identifies Class III wells for the solution mining of salts or potash, but does not address caverns created by solution mining for the purposes of storage of substances other than water. Class III includes wells used for the extraction of minerals, but not the wells used for storage operations.
50. **Parts D through J** – Commenter states that due to the limited number of deep wells in Arizona, injection zones are likely to be difficult to map by direct methods. Therefore, Parts D, E, F, G, H, I, and J should address the use of geophysical data (seismic, gravity, aeromagnetic, electrical resistivity, and other methods) to map injection and confining beds within the permitting process, how such data is to be submitted to the Director and archived.
51. **R18-9-A603** – Commenter states that at the Federal level, the EPA and the Federal Energy Regulatory Commission have recognized that geotechnical data is expensive to acquire and is proprietary to the permittee, and allows maintaining source geotechnical data as confidential. This particularly relevant to Class III wells. Confidentiality of data

should either be addressed by the rules, or the rules should include reference to the applicable Arizona code(s).

- 52. R18-9-C630** - Commenter requests that the preliminary draft rule more clearly state that EPA-issued UIC permits will continue in force until their expiration date (absent cause for modification or termination). The preliminary draft rule indirectly addresses this issue in R18-9-C630, but Commenter requests that the following (or similar) language be added at the beginning of that section (or elsewhere) for clarity: "After EPA approval of the Arizona UIC program, an EPA-issued UIC permit will continue in force until its time expiration as stated in the EPA-issued UIC permit or as otherwise provided under Federal law.
- 53. R18-9-C632** - Commenter requests that the preliminary draft rule clarify what happens if a federal permittee has a request to modify its EPA-issued UIC permit pending before EPA at the time that EPA approves the Arizona UIC program. Commenter requests that language be added to R18-9-C632 (or elsewhere) to clarify that ADEQ will deem such a pending modification request as having been filed with ADEQ, to avoid the need for a federal permittee to have to completely restart the permit modification process and submit a new modification request to ADEQ.
- 54. R18-9-B613** - Commenter notes that the language in R18-9-B613 in the preliminary draft rule pertaining to Mechanical Integrity (MI) parallels the federal regulations at 40 CFR §146.8. Commenter supports this provision and urges ADEQ to ensure that the agency appropriately interprets and applies the regulatory requirements for MI, especially the requirements for "Part 2" of MI for Class III wells, as set forth in R18- 9-B613C, which expressly provides for the use of cementing records alone to demonstrate Part 2 MI for Class III wells where the nature of the casing precludes the use of temperature and noise logs.
- 55. R18-9-A601** – Commenter states, “should consider including specific exclusions from UIC regulation found in 40 C.F.R. § 144.1(g)(2) to the extent that they are not otherwise mentioned elsewhere in these draft regulations.”
- 56. R18-9-A601.A** – Commenter recommends adding, "becomes effective upon the date of EPA’s approval of the Arizona UIC Program." Commenter asks, "Consistent with the approach under the AZPDES program regulations (see A.A.C. R18-9-A905(A)), did ADEQ consider incorporating by reference various sections of the UIC regulations for streamlining purposes?"
- 57. R18-9-A601.E** – Commenter says, "'Exempted aquifer' is defined below in R18-9-A602. This language is not consistent with that definition and should be removed. This language also is not consistent with the exempted aquifer criteria found in R18-9-A606. Not all 'exempted aquifers' trigger a program revision under 40 C.F.R. § 145.32 (see 40

C.F.R. § 144.7(b)(3))."

- 58. R18-9-A602.D** – Commenter requests a removal of the definition, “Appropriate Act and regulations” because the definition is not necessary for a state UIC program. Commenter noted that this definition is not found in the UIC program regulations for either Nevada or Utah.
- 59. R18-9-A602.M** - Commenter requests a removal of the definition, “Confining bed” because the term is not used in the AZ Draft UIC Rule and should, therefore, be removed.
- 60. R18-9-A602.HH** - Commenter requests a removal of the definition, "Generator" because this term is not mentioned elsewhere in the regulations and should be removed.
- 61. R18-9-A602.RR** - Commenter requests a removal of the definition, "Major facility" because it is not clear that this definition is necessary as part of the Arizona UIC program. Commenter continued by stating that it is not included in the UIC program regulations for either Nevada or Utah.
- 62. R18-9-A602.ZZ** - Commenter requests a removal of the definition, "Point of Injection" because this term is not used elsewhere in the draft UIC regulations and it is unclear why it needs to be included.
- 63. R18-9-A602.FFF** - Commenter requests replacement of "...with the appropriate Act or regulations" to "with this Article" because this term is not applicable to a state-implemented UIC program. Commenter further states that R18-9-D639(A) appropriately only mentions schedules of compliance for UIC permits for compliance with the state UIC regulations or “this Article.”
- 64. R18-9-A604.A** - Commenter asks, "How does this language fit with Federal UIC regulation at 40 CFR 144.13(d)?"
- 65. R18-9-A604.E.2** - Add words "Large capacity" in front of first word "Cesspools."
- 66. R18-9-A604.E.9** - Commenter requests a replacement of the words “Except for” with “The UIC requirements do not apply to...” Commenter requests a removal of the words, “...or a design capacity of less than 3,000 gallons per day.”
- 67. R18-9-A605 & 606** – Commenter states,
- "Sections A605 and A606 could be replaced by the following to avoid potential misinterpretations or other language issues:
- "The Director shall identify underground sources of drinking water and exempted aquifers following the procedures and based on the

requirements outlined in 40 C.F.R. § 144.7 and 40 C.F.R. § 146.4, July 1, 2019 edition.'

This is patterned after language found in Utah's UIC program regulations."

- 68. R18-9-A605.C.1** – Commenter requests adding "and a time-table of planned development of the mining zone shall be considered by the Director" if language is not rewritten as per the previous comment.
- 69. R18-9-B609** - Commenter poses the following query, "why did the language in 40 C.F.R. 144.13(d) not get inserted into the state UIC regulations?"
- 70. R18-9-C616D** – Commenter recommends removal of the discussion of permit processing. Completeness of an application is already defined in ADEQ's licensing timeframe rules. There is no reason to include this type of language. Further, it is not clear what some of this language actually means.
- 71. R18-9-C616D.1 and 5.a through h** – Commenter recommends revising language to state generally that the applicant provide all state and federal and other relevant environmental permits rather than listing specific permits, similar to Utah.
- 72. R18-9-C617** - Commenter recommends removal of the entirety of C617 because C617, as a separate section, is not necessary and is redundant with the requirements contained in C616 and C618.
- 73. R18-9-C619.A** - Commenter recommends removal of "A. Once an application is complete, the Director shall preliminarily decide whether to prepare a draft permit or deny the application."
- 74. R18-9-C619.B** - Commenter recommends replacement of the words, "he or she shall prepare a draft permit" and "that contains" with "the draft permit" and "shall contain."
- 75. R18-9-C619.C** - Commenter recommends the addition of the words, "The Director shall provide the applicant with a draft of the permit and fact sheet and allow reasonable time for informal comment by the applicant prior to publicly noticing the draft permit and fact sheet."
- 76. R18-9-C619.C** - Commenter recommends adding the words, "and public comment". The commenter reasoned that the ability of the applicant to review and comment on the draft permit and fact sheet prior to public noticing the draft permit should be spelled out in the regulations similar to the APP regulations (see A.A.C. R18-9-A201(E)).

77. R18-9-C619.D, E, & F - Commenter recommends removal of the language regarding Administrative Record here.

78. R18-9-C620.A - Commenter recommends removal of the word(s), "major," "and for every draft permit that the Director finds is the subject of wide-spread public interest or raises major issues," and "The Director shall send the fact sheet to the applicant and, on request, to any other person." Also, this change is recommended to be consistent with the language above in R18-9-C619 that all draft permits shall be accompanied by a fact sheet.

79. R18-9-C621.B - Commenter recommends removal of C621.B. No specific reasoning given.

80. R18-9-C621.C.2 - Commenter recommends removal of "any person otherwise entitled to receive notice under this Subsection may waive his or her rights to receive notice for any classes and categories of permits."

81. R18-9-C621.D - Commenter recommends matching AZPDES/APP language here. Commentator recommends a number of changes to track AZPDES language at R18-9-A907(A)(1).

82. R18-9-C621.D.2 –

Commenter recommends changing rule from,

"2. Delivery of a notice to any person otherwise entitled to receive notice under this Subsection may waive his or her rights to receive notice for any classes and categories of permits, including the following:"

to

"2. Delivery of a copy of the notice to the following:."

83. R18-9-C621.D.2.a through g –

Commenter recommends changing rule from,

"a. the applicant;

b. any other agency that the Director knows has issued or is required to issue a RCRA, CAA, NPDES, 404, sludge management permit, or ocean dumping permit under the Marine Research Protection and Sanctuaries Act for the same facility or activity, including EPA when the draft permit is prepared by the state;

c. federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources and other coastal zone management plans, the Advisory

Council on Historic Preservation, State Historic Preservation Officers, and any affected States, including Indian Tribes treated as States;

d. for Class I injection UIC permits only, the state and local oil and gas regulatory agencies and state agencies regulating mineral exploration and recovery;

e. persons on a mailing list developed by:

i. including those who request in writing to be on the list;

ii. soliciting persons for “area lists” from Participants in past permit proceedings in that area; and

iii. notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press and in such publications as Regional and State funded newsletters, environmental bulletins, or State law journals.

f. to any unit of local government having jurisdiction over the area where the facility is proposed to be located, and to each State agency having an authority under State law with respect to the construction or operation of such facility; and

g. for Class VI injection well UIC permits, mailing or e-mailing a notice to State and local oil and gas regulatory agencies and State agencies regulating mineral exploration and recovery, the Director of the Public Water Supply Supervision program in the State, and all agencies that oversee injection wells in the State

to

“a. the applicant or permittee;

b. any affected federal, state, tribal, or local agency, or council of government;

c. federal and state agencies with jurisdiction over fish, shellfish, and wildlife resources, and the Arizona Historic Preservation Office;

d. for Class I injection UIC permits only, the state and local oil and gas regulatory agencies and state agencies regulating mineral exploration and recovery;

e. any person who requested, in writing, notification of the activity; and

f. for Class VI injection well UIC permits, mailing or e-mailing a notice to State and local oil and gas regulatory agencies and State agencies regulating mineral exploration and recovery, the Director of the Public Water Supply Supervision program in the State, and all agencies that

oversee injection wells in the State.”

84. R18-9-C621.D.3 - Commenter recommends removal of C621.D.3. Commenter states that all of the in Section D are necessary to not include information outside the scope of a state administered UIC program. Also, the changes track similar language found in the state AZPDES regulations, which are also based on the federal “Procedures for Decisionmaking” regulations found in 40 C.F.R. Part 124. See also Nevada Administrative Code 445A.875.

85. R18-9-C621.E & E.1 - Commenter recommends removal of the word "minimum" from E. Commenter also recommends changing E.1 from, "name and address of the office processing the permit action for the notice being given" to "name and address of the Department.”

86. R18-9-C621.E.5 –

Commenter recommends changing C621.E.5 from,

“a brief description of the comment procedures required under R18-9-C622 124.11 and R18-9-C623 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing and other procedures that the public may use to Participate in the final permit decision”

to

“a brief description of the comment procedures, the time and place of any hearing, including a statement of procedures to request a hearing (unless a hearing has already been scheduled), and other procedures that the public may use to participate in the final permit decision.”

87. R18-9-C621.E.6 - Commenter recommends removal of C621.E.6. Commenter states that under the federal regulations, this language only applies to EPA-issued permits – see 40 C.F.R. § 124.10(d)(vi).

88. R18-9-C621.E.7 -

Commenter recommends changing C621.E.7 from,

"any additional information considered necessary or proper."

to

"any additional information considered necessary to the permit decision or proper."

- 89. R18-9-C621.G** - Commenter recommends removal of C621.G. Commenter states that the language is not necessary and references don't make sense.
- 90. R18-9-C624.B** - Commenter recommends removal of C624.B; Generally, Commenter recommends removal of language regarding Administrative Record here.
- 91. R18-9-C627.A** - Commenter recommends removal of the words, "Except for Class II and III wells" and the replacement of the word "A" with "However, a."
- 92. R18-9-C628.A** - Commenter recommends the addition of language regarding notice to the applicant for denial of application similar to AZPDES R18-9-B903(C)(1)(a).
- 93. R18-9-C629** - Commenter recommends changing title of rule from "Permit Duration" to "Permit Duration; Renewal."
- 94. R18-9-C629.A** – Commenter recommends adding minimum time frames for Class I, II, III and V permits.
- 95. R18-9-C629.C** -

Commenter recommends removal of C629.C and replacement with the following,

"If a permittee wishes to continue an activity regulated by the permit after the expiration date of the permit, the permittee shall submit an application to renew the permit. Each application to renew the permit shall be filed with the Director at least 180 days before the permit expiration date."

- 96. R18-9-C630.D** - Commenter recommends different transition language here. Furthermore, Commenter recommends that the status of existing aquifer exemptions issued by EPA for the state of Arizona should also be documented in the regulations and in the prospective agreement with the EPA.
- 97. R18-9-C631.A** - Commenter recommends significant revision to Permit Transfer language to track AZPDES permit transfer language at R18-9-B905(A).
- 98. R18-9-C631.B** - Commenter recommends the addition on the words, "the Director may automatically transfer" and, in effect, requests that the words, "may be automatically transferred to a new permittee" be removed.
- 99. R18-9-C632.C** - Commenter recommends adding, "and notify the permittee in writing of the reason for the preliminary decision to modify or revoke and reissue a permit with reference to the statute or rule on which the decision is based."

100. **R18-9-C632.F** - Commenter recommends the addition, "that identifies the reason for the preliminary decision to terminate with reference to the statute or rule on which the decision is based."
101. **R18-9-D637.A.1** - Commenter recommends removing the words, "the Safe Drinking Water Act." Commenter states that once Arizona has UIC program approval, the state program operates in lieu of the federal act and regulations.
102. **R18-9-D638.B** - Commenter recommends removal of the words, "the SDWA; and 40 CFR Parts 144, 145, 146, and 124."
103. **R18-9-D638.C** - Commenter recommends removal of D638.C. Commenter states that there is no need to define – self-explanatory.
104. **R18-9-C638.E** - Commenter recommends removal of D638.E. Commenter states that the contents of this rule are already covered in R18-9-D637.
105. **R18-9-G650.B.4, 5 & 6** - Commenter recommends changing "cross-Sections" to "cross-sections."
106. **R18-9-G650.B.8 through 16** - Commenter recommends capitalizing the first word in these subsections.
107. **R18-9-I653** - Commenter recommends additional language here requiring the Director to notify a Class V well owner/operator that a permit is required. Commenter recommends this language come from the AZPDES program, R18-9-C902(A)(2), including contents of notification and right to appeal.
108. **Table 1** – Commenter recommends that Treatment Techniques standards are not "in aquifer" and not relevant to UIC program. Commenter recommends ADEQ consider using Aquifer Water Quality Standards.
109. **R18-9-A602.I** – Commenter states that the definition of "Casing" has some issues. For example: "...prevent the walls from caving" is applicable for conductor casing, but for other casing (intermediate or production) the walls of the hole are supported by drilling mud prior to the installation of the casing and cement and thus seen more as a barrier vs. a supporting structure, although the argument for a supporting structure could be debated. "...to prevent loss of drilling mud into porous ground." Is incorrect – proper mud management (loss prevention material or LCM) is the norm, and if not controllable an external packer setup may be employed, but this is very rare and thus not typical to see in a definition.

- 110. R18-9-A602.DD and EE** – Commenter states, DD separates “gas” from “fluid” but EE includes “gas” in the definition of “fluid”.
- 111. R18-9-A602.JJ** - Commenter states, “Ground water” definition sounds like it includes all water below surface, and in the document there is a lot of verbage to “protect ground water” or have casing covering all “ground water” but, by the definition, this would also cover all waters in all formations (including all brackish or saline waters in deep aquifers, the same ones that would be used for injection zones). I suggest the definition includes words like “potable” or “for human or animal consumption, or irrigation”.
- 112. R18-9-A602.MMM** - Commenter states, it would be better to describe the purpose of the surface casing, which normally is to isolate and protect the USDW from the well injectate (USDW is defined).
- 113. R18-9-A602.RRR** - Commenter states, if one definition is used to describe another definition, the document should just remove one of the defining words (ex. Change “underground injection” to “well injection” everywhere in the document if they mean the same thing).
- 114. R18-9-A604.B.3** - Commenter states, the definition of Class II wells, part 3 states “For Storage of hydrocarbons which are liquid at standard temperatures and pressure.” So a Class II salt storage cavern would be subject to this document stored diesel, condensate or oil, but not for butane, propane, ethane or anything that is not a liquid at STP? Also, I believe it should be clear what is exempt from the AZ UIC program, such as suspended caverns or caverns that are in operation. Commenter stated that they are continuing to work with the Region 5 EPA, and they do not have jurisdiction over active storage caverns or suspended or abandoned caverns. This would fall under existing State regulations.
- 115. R18-9-B613.B.3.b** - Commenter states, “long string casing” is not defined. In other sections “Intermediate casing” is also not defined.
- 116. R18-9-C621** - Commenter states, “I understand AZ has some unique public commentary/disclosure methods. Does this align with what the EPA currently operates?”
- “Example, the EPA allows 30 days from date of issue for public commentary. AZ normally has public commentary at the scheduled meetings. I’m just wondering if this would be different and unique to Arizona.”
- 117. R18-9-D638.A.5** - Commenter asks, is the “...two years...” just an arbitrary timeframe? Where does this timeframe come from?

- 118. R18-9-D638.A.7** - Commenter asks, does this belong under the heading “Financial responsibility”?
- 119. R18-9-E642.A.1,2, and 3** – Commenter states, “there are some formatting and spelling issues in A. For example ‘...within on quarter mile...’ should be ‘...within a quarter mile’. Also missing a ‘of’ in 2. and an ‘in’ in 3. Also in 3, I think it is wrong: It should state something like ‘...in a formation with proven isolating geology between the lowermost USDW and the uppermost injection zone.’ Just stating ‘below the lowermost USDW’ doesn’t mean the injectate won’t make it into that formation.”
- 120. R18-9-E642.C** - Commenter states, “...inject fluids through tubing with a packer set immediately above the injections zone...” This is sometimes not practicable (perhaps there is a collar there, or accuracy of setting on a specific depth is +/- a couple of feet. Perhaps “within ?? feet of the injection zone..” or something.
- 121. R18-9-E642.C.1** - Commenter asks, does the Director have the technical resources to make this determination?
- 122. R18-9-E642.C.2** - Commenter asks, “setting depth of what?” Commenter asks, “Wells with multiple annuli, which annular pressure? Commenter states, “Perhaps state ‘annular packer fluid’” which refers to the annulus with the packer in it.
- 123. R18-9-E642.D.1** - Commenter asks, “why is the only method of drilling one that employs a pilot hole?” Commenter states, “modern drilling techniques (particularly directional drilling) don’t employ a pilot hole. This repeats elsewhere in the document.”
- 124. R18-9-E642.D.2.b** - Commenter recommends, on the open hole logs, it would be good to include an open-hole caliper (aka x-y caliper). This helps determine cement volumes (detects tight hole and washout hole conditions) and thus cement volumes (how much excess cement to you run?). Also “fracture finder logs” is not a technical term. Suggest “fracture imaging logs”. All those on the market don’t actually “find” the fractures, but they image the formation and determinations may be done to distinguish fractures.
- 125. R18-9-F645.E.2.a** - Commenter states, this limits advancement into technology, may qualify this with “or other open hole logs where deemed appropriate.”
- 126. R18-9-J658.D** - Commenter asks, why is there another set of definitions halfway through a document? Can’t these definitions be only at the start of the document? Even if they were expanded to describe all well classes, that would work, versus looking within the document to find definitions. This adds confusion to the reader.

- 127. R18-9-A601E** - Commenter states, the difference between "that" & "which" have big implications; please review.
- 128. R18-9-A605(A)** - Commenter requests the words, "the criteria set forth in" be added to the second to last sentence in this provision.
- 129. R18-9-A605(A)** - Commenter requests removing word, "under" and adding word in - in last sentence.
- 130. R18-9-A605(B)** - Commenter requests "B. Aquifer exemptions requirements:" be changed to, "B. Aquifer exemptions procedure".
- 131. R18-9-A605(B)(1)** - Commenter requests changing A605(B)(1), final phrase, from, "all aquifers or Parts thereof that the Director proposes to designate as exempt aquifer using criteria in R18-9-A606." to "all aquifers or parts thereof that the Director proposes to designate as exempted aquifers using the criteria in R18-9-A606."
- 132. R18-9-A605(B)(3)(b)** - Commenter requests the final sentence of A605(B)(3)(b) be separated and moved into its own subparagraph, presumably A605(B)(3)(c). The sentence is as follows, "Any disapproval by the Administrator shall state the reasons and shall constitute final agency action for purposes of judicial review."
- 133. R18-9-A605(B)(3)(b)** - Commenter requests, not only to move last sentence of A605(B)(3)(b) to its own subparagraph - A605(B)(3)(c) -, but also to keep the parent language from 40 CFR 144.7(B)(3) verbatim.
- 134. R18-9-A605(B)** – Commenter requests the addition of a provision to A605(B). Prospectively, this provision would be added as A605(B)(4). It is proposed as follows, "A decision by the Director to issue a permit that, under R18-9-A606(A)(2)(a) 146.4(b)(1), necessitates a new aquifer exemption or an enlargement of a previously designated aquifer exemption shall not become effective as a final administrative decision until such time as the new aquifer exemption or enlargement of the previously designated aquifer exemption is approved by the Administrator as part of Arizona's UIC program."
- 135. R18-9-A605(B)** - Commenter requests the addition of a provision to A605(B). Prospectively, this provision would be added as A605(B)(5). It is proposed as follows, "The Director's review of an application for permit that relies in any way on all or a portion of an aquifer exemption that was designated and became effective as a UIC program revision prior to the initial submittal of the application to the Director shall not include a review or determination of whether any portion of that aquifer exemption continues to meet the criteria for designating an aquifer exemption at R18-9-A606 40 CFR 146.4."

- 136. R18-9-A605(B)** - Commenter states that there is an opportunity to codify Federal Case Law into Code here.
- 137. R18-9-A605(D)** - Commenter requests the wording in the final sentence on A605(D) be changed from, "...an approved State UIC program..." to, "...the Arizona UIC program..."
- 138. R18-9-A606(A)(2)(c)** - Commenter requests the word "water" be added to A606(A)(2)(c). The provision would be changed from, "It is so contaminated that it would be economically or technologically impractical to render that fit for human consumption..." to "It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption..."
- 139. R18-9-A606(A)(4)** – Commenter requests the word "exemption" be added to A606(A)(4). The provision would be changed from, "[t]he areal extent of an aquifer for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under R18-9-A605(D) 144.7(d) if it meets the following criteria..." to "The areal extent of an aquifer exemption for a Class II enhanced oil recovery or enhanced gas recovery well may be expanded for the exclusive purpose of Class VI injection for geologic sequestration under R18-9-A605(D) 144.7(d) if it meets the following criteria...."
- 140. R18-9-C627** - Commenter states, compliance w/permit is compliance w/ SDWA.
- 141. R18-9-C630** - Commenter states, concern over existing permits - may vs. will - continue until expiration.
- 142. R18-9-A601(E)** - Commenter prefers either: (1) the original 40 CFR 144.1(g) language be used instead of this draft language for this provision, or (2) a change from permissive to declaratory language be used concerning this sentence, "Such aquifers are those which may qualify as underground sources of drinking water to be protected, but that have no real potential to be used as drinking water sources." The change would be from "those which may qualify" to "those that would otherwise qualify."
- 143. R18-9-A601(E)** - Commenter requests adding the following language, as its own sentence, to the end of 601(E), "Any aquifer or portion thereof within the State that has previously been designated exempt by EPA pursuant to 40 CFR § 144.7 shall be part of the Arizona UIC program."
- 144. R18-9-A601(E)** - Commenter states that exemptions should be continued as well, in the same fashion that permits should be. Additionally, commenter requests the word

"will" be added for certainty.

- 145. R18-9-A602(SS)** - Commenter requests a rewrite of the "Permit" definition in order to, "(i) harmonize the federal definitions of 'permit' at 40 C.F.R. §§ 144.3 and 146.3 with Arizona's administrative procedure statutes; and (ii) incorporate the three kinds of individual UIC permitting decisions within the definition (new permit, modified permit, and revoked/reissued permit)." Proposed language is as follows, "'Permit' means an authorization, license, or equivalent control document issued by the department to implement the requirements of this chapter. 'Permit' includes an individual permit that is a new permit, a modification of an existing permit, or revocation and reissuance of a permit as described in A.A.C. R18-9-C632. 'Permit' also includes an area permit (A.A.C. R18-9-C625) and an emergency permit (A.A.C. R18-9-C626). 'Permit' does not include UIC authorization by rule (A.A.C. R18-9-I652(A)), or any permit which has not yet become effective as a 'final administrative decision' as defined at A.R.S. § 41-1092, such as a 'draft permit' (defined herein) or a proposed permit."
- 146. R18-9-A602(SSS)** - Commenter requests removing the word "which" from A602(SSS)(1-3).
- 147. 40 CFR 145.12(B)1,2, & 3** - Commenter states, the authority to levee annual fees in the Federal rules comes from 40 CFR 145.12(B)1-3 & 40 CFR 145.13(C). He mentioned the necessity for regular inspections too. Furthermore, he cited the AZ UIC creation statute, specifically A.R.S. 42-242(E) as further authority to for UIC annual fees. He went on to say we should state that we have this authority in the preamble.
- 148. R18-9-C629** - Commenter states concerns about the certainty of the duration of a permit. Also concern about how permits will reconcile with ADWR and Oil & Gas Commission permitting requirements.
- 149. R18-9-C616(E)(6)** - Commenter states concern about the requirement of an annual inventory. Commenter asks, "will there be an annual submission?" Commenter states, will a new drywell require the submission of a 1 square mile topo map?
- 150. R18-9-B613.B** - Commenter states concern over the mechanical integrity requirements. Commenter asks, will EPA technical guidance will be embedded in the rule?
- 151. R-18-9-A601(B)** - Commenter gave the example of a Voluntary Remediation Program project moving groundwater in a new direction, an additional recharge well pushes the groundwater in yet another direction and how such situations play into UIC considering language in this rule like "adversely affects" & "prohibited".

- 152. R18-9-D638** - Commenter states concerns over Financial Responsibility. Commenter asks, will surety bonds will be allowed under program?
- 153. R18-9-A601.E** - Commenter asks, "How will R18-9-A601.E, be aligned with ARS Sect. 49-224.E? All aquifers in the State are classified for protected drinking water use unless the classification is changed pursuant to ARS Sect. 49-224.C. I think R18-9-601.E should be retained in the final rule."
- 154. R18-9-C633(B)(1)** - Commenter has "or" circled here, signifying a query to the drafters to consider the language.
- 155. R18-9-D641(F)** - Commenter states, "[t]his section appears to be a State addition. It is not in the federal rule (at least not under 40 CFR 144.55 Corrective Action)."
- 156. R18-9-E642(A)** - Commenter states, "[t]his section not found in 40 CFR 146.12."
- 157. R18-9-E644(B)(4)-(6)** – Commenter recommends lower-casing the “S” in “cross Sections”
- 158. R18-9-J659(B)(1)** – Commenter recommends removal of, "Information required in under R18-9..."