Texas Mining & Reclamation Association

May 26, 2015

VIA EMAIL a-and-r-docket@epa.gov
AND U.S. MAIL

Attn: Docket ID No. EPA-HQ-OAR-2012-0788
Health and Environmental Protection Standards
for Uranium and Thorium Mill Tailings
Air and Radiation Docket
U.S. Environmental Protection Agency, Mail Code: 2822T
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

RE: 40 Code of Federal Regulations (CFR) Part 192; Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings; Proposed Rule

Dear Sir or Madam:

The Texas Mining and Reclamation Association (TMRA) appreciates the opportunity to respond to the U.S. Environmental Protection Agency's request for comments in the notice of proposed rulemaking published in the January 26, 2015 edition of the *Federal Register*, entitled "40 CFR Part 192 Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings."

Enclosed, please find TMRA's detailed comments relating to EPA's action referenced above. Moreover, TMRA also agrees with, supports and adopts as if included herein, those comments filed in this Docket by the Texas Commission on Environmental Quality, National Mining Association and the Wyoming Mining Association. If you have comments or questions concerning the enclosed comments, please contact Mr. Ches Blevins, TMRA Executive Director, at 512-236-2325 or "ches.blevins@tmra.com".

Sincerely,

Chesley N. Blevins
Executive Director

cc: **VIA EMAIL**
Mike Altavilla, TMRA Chairman
Craig Wall, Uranium Energy, Corp.; TMRA Uranium Committee Chair

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DOCKET ID NO. EPA-HQ-OAR-2012-0788

NOTICE OF RULEMAKING 40 CFR 192

TEXAS MINING AND RECLAMATION ASSOCIATION (TMRA) – RESPONSE TO EPA'S RULE 40 CFR PART 192 ENVIRONMENTAL PROTECTION CRITERIA FOR IN SITU URANIUM RECOVERY FACILITIES

On January 26, 2015 the U.S. Environmental Protection Agency published notice of a proposed 40 CFR Part 192 "the 192 rule" in the Federal Register that would have a profound effect on the uranium industry in Texas and throughout the remainder of the United States where ISR is practiced. The rule would impose federal restoration standards on the Texas in-situ uranium industry and require that post restoration monitoring be conducted up to 30 or more years after restoration stability was completed at a site. The rule does not consider matters that are important to Texans such as private property rights and conservation of groundwater in the State. Objections to the proposed rule are below.

1) EPA's Lack of Transparency

In Situ Recovery (ISR) uranium technology was largely developed in Texas, and Texas is the Western World capital of ISR operations. It would be logical that a federal regulatory agency look to technical resources in Texas regarding rulemaking that was intended for the ISR industry. In developing the proposed 192 rule, EPA looked inward for technical information and did not solicit or request information from Texas sources such as the Texas Mining and Reclamation Association, companies who have done reclamation and stability, land, water and mineral owners and State regulators, specifically the Texas Commission on Environmental Quality (TCEQ).

With other rulemakings, EPA coordinated with industry with requests for information. Industry was supportive and the technical quality of the proposed rule reflected the consultation with the industry stakeholder. For the 192 rulemaking there have been no formal requests for information and the quality of the proposed rule suffers as a result.

TMRA proposes to extend the comment period an additional 180 days from May 27, 2015 to identify and prepare valuable environmental data that will dispute the numerous potential harm claims of these draft rules. As an alternative to extending the comment period, simply adopt the existing rules under 30 TAC 331.

2) Aquifer Exemption – 40 CFR 146.4

In the vicinity of a uranium deposit the water is not potable because of the natural occurring uranium and radioactivity that stems from the uranium ore in the rock and other elevated harmful ions (arsenic and selenium). Given this fact, uranium ISR is authorized by the TCEQ after undergoing an exhaustive transparent permitting process that is open for public comment and possible public hearing. After acquiring the required six separate licenses from the TCEQ, the

EPA then must review and concur with an "Aquifer Exemption" according to their regulatory criteria as follows:

> "(a) It does not currently serve as a source of drinking water; and
>
> (b) It cannot now and will not in the future serve as a source of drinking water because:
> (1) It is mineral, hydrocarbon or geothermal energy producing, or can be demonstrated...as part of a permit application... that considering their quantity and location are expected to be commercially producible....
> (3) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption..."

EPA has lost the significance of the Aquifer Exemption designation in its proposed 192 rule. In 1978 the Aquifer Exemption designation was conceived during a cooperative underground injection control (UIC) rulemaking process which involved industry and the EPA. Then, from data, it was confirmed that the water near uranium deposits was mineralized and toxic for human consumption. After all, uranium exploration was conducted by sampling wells to look for high levels of uranium, radium, gross alpha and radon. That same uranium and its progeny made water unsuitable for human consumption.

The exemption process was developed so the ISR uranium industry could exist given the new rules which prohibited injection into a USDW that was defined by TDS alone. It was determined that the water around uranium deposits was suitable for the ISR process, but not drinking. EPA did not require restoration because the water could not be used in the future as a drinking water source. Texas led this effort, requiring restoration by State rules to protect surrounding water resources.

TMRA proposes that the EPA adopt the existing rules under 30 TAC §331.107 regarding restoration.

3) **<u>EPA's Surrounding Groundwater Concerns ≠ Risk Based</u>**

Texas' UIC program requirements have been successful for over 30 years in mitigating the risk to water resources surrounding the exempted area. In EPA's rulemaking, the Texas experience is ignored and EPA presents no data demonstrating migration of mining solutions from ISR well fields post restoration. EPA discussed well field restoration results, but provided no examples of offsite migration. The entire technical discussion is speculation with use of the terms "potentially could migrate" and "may" cause increased human health risks. EPA's risk analysis amounts to no more than superstition or supposition. It is not fact or science based.

EPA made no attempt to refute a 2009 Nuclear Regulatory Commission report which acknowledged no migration of recovery solutions to adjacent, non-exempt aquifers based on 40 plus years of ISR operations, nor TCEQ written finding that "there have been no documented cases of offsite groundwater contamination in South Texas in over 30 years of in-situ uranium mining at over 30 different sites" (TCEQ Executive Director's Response to Public Comment,

Permit No. UR03070, October 13, 2008). This existing 40 years of monitoring results at numerous commercial scale sites shows that there has been no impact to down gradient water.

Throughout the document proposed by EPA without industry or state input, speculative words such as "potential", "might", "may", "possible" and/or "likely" are used over 200 times. Meanwhile, the words "proof", "proven" and/or "confirmed" are used only twice. TMRA therefore proposes the EPA provide proof that mining solution has migrated from ISR projects post restoration before adopting rules that are presently based only on speculation.

4) **EPA's Economic Analysis ≠ an Order of Magnitude**

EPA's projected 192 rule compliance cost to the industry was simplistic; considering only well sampling and lab costs are just a start. The costs of modeling, statistical analysis and extended time that are proposed by the 192 rule have not been factored into the EPA cost analysis. Moreover, the mountains of data, statistics and geochemical modeling will require technical intellectual expertise; people for years and people come at a cost. Again, no consideration is given to these corporate costs. And there are the general and administrative corporate costs for 30 years which are not considered by EPA at all, not to mention costs of annual license fees, maintaining surety and a water processing system with personnel until the 30 year time frame and license closure is completed.

Land holding costs were also not considered by EPA. What were 5 to 10 year mining leases would need to be 10 to 40 year mining leases if the 192 rule was finalized in its current form. Land rentals, lease renewals, lease extension bonuses are not even considered in the EPA economic analysis. Land owners would probably not wish to encumber their property (surface and mineral) for the time frame proposed by Part 192 rules. These proposed EPA rules could be viewed as a "takings" action.

When the entire suite of costs of the proposed 192 rule are applied to business, the costs are several orders of magnitude higher than EPA calculated in their cost-benefit analysis. This is even more crucial because all of the ISR companies in Texas are small businesses. The realistic cost of the proposed EPA 192 regulations would have a disproportional cost impact to small business or small entities that exceeds EPA's own policy guidance.

TMRA proposes that the EPA extend the comment period at least 180 days from May 27, 2015 to allow the uranium industry to provide an economic analysis based on all financial costs that would be incurred as a result of Part 192 adoption.

5) **Business Requires Regulatory Certainty**

Regulatory certainty is the lynch-pin for any successful business. The proposed 192 rule assures regulatory uncertainty. The Texas ISR uranium industry will disappear with the uncertainty of a

30 year monitoring period after restoration is complete. EPA provides no justification for increasing stability to 3 years or post stability to 30; its proposed stability period is arbitrary.

Possible exceptions from these long post operational periods using geochemical modeling are vague. EPA suggests that geochemical modeling may provide relief from a 30 year monitoring period, but there is no reason that the geochemical modeling cannot be performed during the permitting process because the Texas UIC permit program assures no downgradient changes post mining. The Texas program is protective and provides necessary regulatory certainty.

TMRA proposes that the EPA adopt the existing rules under 30 TAC §331.107 regarding restoration and stability monitoring. This would include stability monitoring for 1 year after cessation of restoration or 2 years after cessation of restoration if a restoration table is amended.

6) **EPA Ignores Private Property Rights**

Unless severed, property owners in Texas own the land, water and minerals. Companies may access these private properties only by purchase or lease. EPA has not considered the ramifications of extended lease periods either in cost to the company or to the property owner. In other words, does the land owner want their agricultural property removed from productivity for extended periods?

If the rules of the EPA thwart the viability of the Texas uranium recovery industry, property owners will effectively loose the value of their mineral estate and regulatory takings of a valuable mineral are possible, even likely.

EPA has not considered the excess water usage and quantity impacts to surrounding waters by required restoration in the exempted ore zone to a statistical 95% confidence. The cost of a lowered water table, resetting pumps, drilling deeper wells, etc. is not considered by EPA.

The original water quality exceeds drinking water standards for a variety of ions, including uranium; the prime mineral of interest. Even so, the industry has restored the uranium level to below baseline at 7 of the reported 22 projects, and on average to less than 1 part per million of baseline using modern desalination technology.

Further restoration to address the few slightly elevated constituents will waste groundwater as these ions approach an asymptotic limit just a little above baseline values. Drawing in and using fresh, potentially potable, water from outside the exempted portion of the aquifer to further restore what is and will be non-potable water in the exempted portion of the aquifer is wasteful and runs counter to EPA's stated desire to protect future groundwater sources.

TMRA proposes that the EPA retract the 30 year stability monitoring requirement and adopt existing rules under 30 TAC 331 that have protected adjacent water wells for over 30 years.

7) **Restoration Beyond Diminishing Returns = Waste**

Groundwater restoration is the most consumptive phase of the ISR cycle. For every gallon of water consumed and disposed during restoration of the exempted portion of the aquifer, a gallon of fresh water flows in from the regional aquifer. No attempt was made by EPA to address resource consumption cost with restoration to 95% vs. a benefit to adjacent groundwater. EPA should perform this analysis vis-à-vis the successful restoration results under the requirements of the existing Texas uranium regulations.

EPA is correct that water is valuable and must be preserved, but if quality water is being consumed to achieve an arbitrary statistical result, without any incremental future use value in the well field being restored, then the use of the fresh water amounts to waste. In that sense, the 192 rule has the potential to be wasteful of water and to defeat the purpose for which it is intended, to protect groundwater for the future.

Again, TMRA proposes that the EPA adopt existing rules under 30 TAC 331 that have protected adjacent aquifers and water wells for over 30 years. Wasting groundwater to achieve 95% confidence for water that never has and never will meet EPA's own primary or secondary drinking water standards, clearly defeats the purpose of 192.

8) **40 CFR 192.52(c)(3)(i)** – the licensee has demonstrated groundwater stability at 95 percent confidence for three consecutive years (i.e., no increasing trend in concentration levels as identified by appropriate statistical techniques) of groundwater concentrations for the listed constituents before entering the long-term stability monitoring phase; and

TMRA proposes that the EPA adopt 30 TAC 331.107(f) and (g) for demonstrating groundwater stability. In summary, one year of stability sampling after cessation of restoration or two years of stability sampling if a restoration table is amended. There is absolutely no evidence to suggest additional stability sampling is necessary beyond two years.

9) **40 CFR 192.53(a)(3)** – The preoperational background monitoring effort shall include immediately underlying aquifers, and background monitoring inside and outside of the exempted aquifer, including both the up and down gradient areas outside of the production zone.

TMRA proposes that the EPA revise 40 CFR 192.53(a)(3) as follows: The preoperational background monitoring effort shall include existing underlying, and background monitoring inside and outside of the exempted aquifer, within ¼ mile boundary, including both the up and down gradient areas outside of the production zone. State rules already require all water wells inside and within ¼ mile boundary of the Aquifer Exemption boundary be sampled for baseline conditions.

10) **40 CFR 192.53(a)(4)(i)** – The monitoring effort shall be of sufficient duration of no less than one year and of sufficient scope to adequately characterize temporal and spatial variations in groundwater, and to account for impacts of well installation and development on background concentrations of constituents and values of indicator parameters, where applicable.

TMRA proposes that the EPA adopt 30 TAC 331.104 for establishing baseline parameters. There is no evidence that the existing rules in State statute inadequately or inaccurately characterize groundwater quality.

11) **40 CFR 192.53(a)(4)(iii)** – The licensee shall employ appropriate statistical techniques to analyze background concentrations measured in individual wells within the proposed production zone for the purpose of determining restoration goals for groundwater restoration and long-term stability monitoring under 192.52(c)(1) of this subpart.

TMRA proposes that the EPA adopt 30 TAC 331.107 language for the purpose of determining restoration goals.

12) **40 CFR 192.53(d)(2)(i)** – Stability shall be demonstrated for three consecutive years at a 95% confidence interval measured from the time at which sufficient data to determine statistical significance has been collected.

TMRA proposes that the EPA adopt 30 TAC 331.107 for establishing restoration goals and stability monitoring. There is no evidence to support the existing State rules do not adequately protect adjacent aquifers. Additionally, or perhaps most importantly, three years of stability monitoring for a wellfield that has undergone restoration and meets or exceeds previous aquifer qualities provides no additional environmental, health or safety protection.

13) **40 CFR 192.53(e)(1)(iii)** – Long-term stability monitoring shall be conducted for a period of 30 years.

TMRA proposes that the EPA delete all of 40 CFR 192(e)(1)(iii) for the following reasons: There is no evidence to suggest the existing rules under 30 TAC 331 do not adequately protect adjacent aquifers after the restoration and stability period. 30 years of additional monitoring unnecessarily extends the life of the project and deters landowner participation with industry operators. Staffing needs for stability monitoring extend well past mining timelines and make it more difficult to fund. Annual Radioactive License Fees must be incurred since the NRC will not sign off and release the project until the stability period is

over. That means an additional 30 years of license fees and financial surety adjustments which were not considered in the EPA's economic study.

14) **40 CFR 192.54** – Corrective Action Plan

TMRA proposes that the EPA delete all of 40 CFR 192.54. Corrective measures during the event of an excursion are required and explained in the Mine Area Applications submitted to the TCEQ. Corrective measures include but are not limited to the cessation of injection, increased bleeds and more frequent sampling periods. Corrective actions during an excursion incident are required by TCEQ until the well demonstrates three consecutive daily samples under the upper control limits. Once the well is in compliance, there is no need to continue monitoring the well for an additional 3 years just because it was on excursion at one point during production.