Uranium Resources, Inc.

EPA rule (RIN 2060-AP43): Revision to 40 CFP Part 192 – Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings and Uranium In Situ Leaching Processing Facilities

Office of Management and Budget Presentation

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Purpose of rule changes

- "The overall purpose of this subpart is to address the most significant hazards represented by ISR activities."
  - Reduce risk of undetected excursions of pollutants into adjacent aquifers.
  - Reduce risk of health risks from exposures to radionuclides.

Uranium Resources History

- Founded in 1977
  - Two Texas projects completely restored and closed
  - Three current projects nearing completion of restoration.
  - Property holdings in New Mexico and Texas.
- Nearly 30 years of production and restoration history.
- Complete and lasting restoration.
- No sources of drinking water have ever been affected by our operations.
- Production began in 1987. Has been in and out of production through 2009.
- All future projects on hold until economics improve to sustainable levels.
- Groundwater restoration complete at all three mined sites.
  - ROS plugged. Continuing surface reclamation
  - VAS & KVD in Groundwater stabilization

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Rules acknowledgement

- Current use ignored in favor of hypothetical future use.
  - The proposed rule incorrectly forecasts a future use of the water, when in fact it is currently exempted as non-potable under the law.

- Current aquifers are exempt from human consumption because of natural uranium mineralization.
  - Not usable now or in the future.
- Not currently used because of poor quality.
- Hypothetical future use is not justifiable as rules for current operations.

Regulatory History and Success

- 30 years of robust Underground Injection Control program in Texas.
  - Complete history of multiple ISR projects mined and restored in the state of Texas under the TCEQ.
  - No cases of ISR operations contaminating USDWs anywhere in the country.
  - Restoration to baseline conditions is performed at all sites and monitored for completeness.
  - No cases of cancer or human impacts from ISR uranium mining.

Stated costs of proposed rule

Costs

- Annualized monitoring costs ranging from $12.5 to $14.1 million
- Maintenance of financial assurance for up to 30 additional years per facility

Benefits

- Protection of groundwater quality
- Possible protection of surface water quality
- Potentially reduced risk of exposure of human or ecological receptors to radiological pollutants
- Potentially reduced human health impacts, including cancer
- Reduced remediation cost savings ($8.8 million to $560 million for CMU)

Table 1-Characterization of the Costs and Benefits of 40 CFR Part 192, Subpart F

Stated costs – No Economic Study

- Proposed rule uses “a generalized future cost of groundwater remediation” as an incorrect replacement for actual value of groundwater and its protection.
  - Ignores actual present use and supposes an unjustified future use at an inflated value.
  - No actual economic analysis done to justify position.
- Proposed rule incorrectly cites “prudence” and “cost-effectiveness” to prevent hypothetical future occurrences of contamination.
  - 30year history of mining with no occurrences of actual contamination.
  - No justification for cost effectiveness.
  - No modelling to support possible contamination of USDWs
  - Ignored Aquifer exemptions based upon natural occurrences of mineralization.

Costs

- Does not include:
  - General and administrative costs.
  - Surety maintenance
  - Continued disposal of water resources required for bleed
  - Increased land holding costs
  - Equipment
  - Land maintenance

Cost – Impact to business

KVD – 4,183,000 lbs recovered

Additional monitoring costs = $13.38/lb — 41% of sales price

Average sale price of uranium = $32.18/lb

ROS – 2,652,853 lbs recovered

Additional monitoring costs = $13.19/lb — 57% of sales price

Average sale price of uranium = $23.20/lb

VAS – 659,309 lbs recovered

Additional monitoring costs = $31.85/lb — 36% of sales price

Average sale price of uranium = $87.75/lb

Current spot price of uranium = $18.75/lb

Sales prices inflated to 2016 USD

Benefits

“Possible”, “Potentially”, “May” cause . . .

- No determination of actual threat. – No quantifiable measurements.
- No quantifiable gains.
- Hypothetical situations which have not occurred in last 30 years under current regulations.
- Use of Precautionary Rule Making versus scientifically based Risk Assessment methods are unwise and not recommended – US Chamber of Commerce.

Other Considerations

Proposed Rule does not consider:

- Loss of ability to acquire land.
- Excess water usage.
- Diminishing returns of excess water consumption.
- Lower water tables, deeper wells, deeper pumps.
- Not a RCRA disposal site – the same standards do not apply. – No waste is being stored in the aquifer.
  - … we derived these provisions from the RCRA groundwater monitoring framework applicable to hazardous waste disposal sites." pg46
  - "At ISR sites, however, the groundwater has already been influenced by the natural mineralization associated with the uranium roll front deposits." pg 46
- No quantitative assessments or instances of actual contamination occurring
- Water needs treatment to be used before mining and will need same treatment after restoration is completed.

Data

- Data selected was chosen almost entirely from anti-uranium mining viewpoints.
- Anti-uranium organizations and persons biased views were used as scientific evidence. (Darling and Fettus)
- Many documents are draft reports and not peer reviewed.
- No industry documents or records included.
- No state regulatory documents included.
- Industry Pilot studies not reviewed.
- Studies on uranium ISR and restoration favorable to existing rules were ignored and dismissed.

Conclusions

- Does not provide evidence of problem.
  - No instances of past uncontrolled excursions.
- Danger to the environment or human health has not been established.
  - No history of injury or sickness to people.
  - No history of contamination outside of production areas.
- History of compliance to current regulations and success in protecting people and environment.
- Costs are grossly underestimated.
- Benefits are all hypothetical.
- Data used to justify rule is unreliable and ignores data that deems rule change unnecessary.
- No measurable increase in the safety of drinking water or human health.
- **Ultimate consequence of this rule – No uranium projects would ever be produced and our company would not exist.**