June 11, 2010

Dina Kruger, Director
Climate Change Division
Office of Air and Radiation
U.S. Environmental Protection Agency
Ariel Rios Building 1200 Pennsylvania Avenue, N.W.
Mail Code: 6207J
Washington, DC 20460

Re: Mandatory GHG Reporting - Docket ID No. EPA–HQ–OAR–2009–0926

Dear Director Kruger:

The organizations identified by the signatures at the end of this letter submit the attached comments and recommendations regarding the proposed 40 CFR Part 98, subpart RR regulations for carbon dioxide injection. USEPA, Mandatory Reporting of Greenhouse Gases: Injection and Geologic Sequestration of Carbon Dioxide; Proposed Rule, 75 Fed. Reg. 18576 (April 12, 2010).

We commend EPA for recognizing the important role that the use of CO_2 for enhanced recovery of oil and natural gas can play in facilitating the further development and deployment of geologic sequestration (GS) 75 Fed. Reg. at 18578. We also commend EPA for its efforts to minimize the reporting burdens for both enhanced oil and gas recovery (ER) operators who choose not to report as GS facilities and those who choose to report as GS facilities.

Geologic Sequestration with Enhanced Recovery

EPA's underground injection control (UIC) program proposal for Class VI wells suggested continuing to regulate and permit injection of CO_2 for ER purposes as Class II injection "as long as any production is occurring." "Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO_2) Geologic Sequestration (GS) Wells", 73 Fed. Reg. 43491, 43502 (July 25, 2008). The geologic sequestration multi-stakeholder discussion (GSMSD) participants recommended that the rules be clarified to provide more certainty about the applicability of Class II requirements where GS of CO_2 occurs in connection with ER activities. Specifically, it was recommended that the UIC rules should provide a "bright line" definition as to the applicable class of wells where CO_2 is injected for ER and for GS in tandem.

Differentiation from GS in Oil and Gas Reservoirs

As a foundation for those recommendations, GSMSD participants agreed that the proposed language should establish a "bright line" definition, or Class II(b)(4), for wells that inject CO_2 for ER and GS and, consistent with EPA's intent, should remain in Class II and be subject to the current requirements of Class II. GSMSD participants also agreed that the wells used for GS in oil and gas reservoirs that do not meet the criteria of (b)(4) should be subject to additional requirements due to the potential change in the risk profile when ER

activities cease. Following up on those conclusions, a number of the GSMSD participants also submitted a comprehensive set of regulatory requirements for wells used for geologic sequestration in oil and gas formations and where the criteria of paragraph (b)(4) are not met, which were denominated as Class II(b)(5) wells. MSD Recommendation Letter of October 9, 2009 (copy attached). Consistent with this approach, the signatories to this letter emphasize that the wells that do meet the criteria for proposed classification II(b)(4) have a risk profile that reflects more than 35 years of experience with the safe and effective injection of CO_2 for ER, 75 Fed. Reg. at 18579, and EPA's final subpart RR rule should allow implementation of the requirements to reflect that reality.

Coordination with UIC Program Requirements

The preamble to this proposal notes "EPA's intention to coordinate GS requirements across relevant statutory or other programs in order to minimize any redundancies and increase clarity for stakeholders" and asks for comment on whether this is appropriate. Such coordination is of paramount importance in many respects including UIC program requirements for delineation of the area of review for GS facilities, development and implementation of MRV plans, review and updating of AoR and MRV plans, and closure. Coordination is critical not only between program offices at the federal and EPA regional levels, but also between EPA and the state agencies involved in administering the UIC and air programs.

Performance Standards and Adaptability

The collective set of GSMSD recommendations reflect a fundamental approach – one consistent with EPA's own foundational objectives – to: build on existing knowledge of technology and sites; prefer performance standards; allow for adaptation based on "learning by doing" from both specific projects and collective results; use plans to allow flexibility for site specific and progressive adaptations; recognize the important role and need for site-specific modeling; and incorporate an iterative process to facilitate use of data to verify and modify modeling and project plans as necessary and appropriate.

Facility Delineation

Consistent with these fundamentals, subpart RR requirements should allow reliance on sufficient existing facility delineations notwithstanding the application of new measuring sticks. This will be appropriate especially for facilities that inject into contained reservoirs with defined seals and traps that are well understood by both operators and regulators. To meet new requirements while minimizing unnecessary burdens, EPA should adopt adaptable requirements and should coordinate as appropriate with expert state regulators in the application of those requirements.

Monitoring, Reporting and Verification Plans

The purpose for monitoring is primarily to confirm anticipated CO_2 behavior and results at sites that have been carefully selected and characterized to meet the applicable siting requirements – i.e., criteria that mandate sites capable of accepting and containing the injected fluids. Therefore, the monitoring requirements should also be tailored to each site and project and should reflect an understanding of what is already required and what is being implemented (even if not required). EPA should recognize that neither UIC permits nor MRV plans incorporated in UIC permits are required to address the CO_2 leakage considerations set forth in subpart RR. Compliance with this subpart should require review of whether an MRV plan is adequate to assure that leakage is not occurring and to quantify whatever leakage does occur. At the same time, EPA should recognize that MRV plans associated with UIC permits can be helpful even if not sufficient in demonstrating compliance with the MRV requirements of this subpart.

EPA should also recognize in its final rule preamble that the need to meet the additional MRV plan requirements under this subpart does not necessarily require the use of atmospheric or soil monitoring methods. There should be a recognition that the most effective manner for protecting USDWs will be ensuring that the injected CO_2 stream and displaced formation fluids are fully contained within the injection and confining zones and that it is possible that the monitoring methods and procedures adopted under the UIC permit – along with additional monitoring procedures already being implemented whether or not required for UIC purposes – could be sufficient to fully satisfy the MRV requirements of this subpart. This determination must be made on a case-by-case basis and UIC MRV plans will at least need to be modified to show the demonstration of compliance with the MRV plan requirements of this subpart.

For Class VI wells and Class II(b)(5) wells (consistent with the GSMSD October 9, 2009 recommendation), we anticipate that the UIC MRV plans will go a long way toward satisfying the subpart RR MRV plan requirements. For Class II(b)(4) wells, all of the MRV plan requirements may not already be in place, but here too current monitoring practices will go a long way toward meeting the subpart RR requirements.

Under our recommended approach, monitoring plans would be site-specific, and monitoring of potential leakage pathways would be conducted as necessary and feasible in accordance with project MRV plans. The MRV plans would be reviewed annually against operational and monitoring data and would be reevaluated and revised as necessitated by material change either in the monitoring and operational data or in the evaluation of the monitoring and operational data. EPA should recognize that the monitoring process likely would have at least two stages, with the latter stage being triggered by leakage.

The first stage of our proposed approach already includes a process for addressing changes in fluid migration or pressure front that extend beyond the area of review but do not result in leakage. This would require review and potential reevaluation and revision of the area of review (i.e., the project envelope) and/or the MRV plan. Unanticipated fluid movement could also trigger additional monitoring steps.

By contrast, actions triggered by actual leakage would be (1) to determine and implement appropriate response pursuant to the UIC emergency and remedial response plan and (2) to quantify that release for subpart RR emission reporting purposes. Any additional monitoring and measurement steps and MRV plan revisions would be taken on a fit for purpose basis as necessary to locate and/or address the type of release involved.

Closure

With respect to closure, we recommend that essentially the same closure requirements that the GSMSD participants previously recommended for Class VI wells and for our recommended Class II(b)(5) wells be incorporated into the subpart RR requirements to assure that Class II(b)(4) operations that opt to report as GS facilities under this rule will also meet the same closure requirements. EPA must recognize, however, that closure of a Class II(b)(4) operation without conversion to Class II(b)(5) will involve a different risk profile. Therefore, Class II(b)(4) operators may more readily be able to satisfy the closure requirements that we have recommended be adopted.

Conclusion

The undersigned GSMSD participants emphasize that our recommendations are based on a comprehensive approach that addresses the needs for performance standards and adaptive permitting. EPA can best meet these objectives by adopting our recommendations in their entirety for both the UIC program and subpart RR.

Thank you for the opportunity to comment on this proposed rule. Please contact Bob Van Voorhees, Manager of the Carbon Sequestration Council at 202-508-6014 or at bobvanvoorhees@carbonsequestrationcouncil.org if you have any questions.

Sincerely,

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