

**Attachment to Permittee Marquis Carbon Injection LLC's
Motion for Leave to File Surreply:**

Proposed Surreply

**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

In re:	)	
	)	
	)	UIC Appeal No. 26-01
	)	
Marquis Carbon Injection LLC,	)	
Marquis Biocarbon Project,	)	
Putnam County, Illinois.	)	
	)	
Class VI UIC Permit No.	)	
IL-155-6A-0001	)	
	)	

PERMITTEE MARQUIS CARBON INJECTION LLC’S SURREPLY

I. INTRODUCTION

Eco-Justice Collaborative’s (“Petitioner”) reply brief turns this appeal into a moving target. The U.S. Environmental Protection Agency (“EPA”) and Marquis Carbon Injection LLC (“Marquis”) responded to the arguments Petitioner presented in its Petition, but now Petitioner seeks to allege new regulatory arguments and technical issues in its reply brief rather than defend its original position. While these new arguments are meritless and are largely based on requirements that are not in the Class VI regulations, they were not properly preserved. Board precedent makes clear that a petitioner “may not raise new issues or arguments in the reply.” 40 C.F.R. § 124.19(c)(1)–(2); *see also, e.g., In re BP Cherry Point*, 12 E.A.D. 209, 216 n.18 (EAB 2005) (rejecting new legal argument petitioner sought to introduce for the first time in a reply brief); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 126 n.9 (EAB 1999) (“New issues raised for the first time at the reply stage of these proceedings are equivalent to late filed appeals and must be denied on the basis of timeliness.”). This restriction prevents a petitioner from endlessly extending a permit appeal by injecting new theories of error after filing a petition, particularly where those theories depend on requirements the regulations do not impose. The

implication of Petitioner's approach is obvious: no amount of analysis will ever be enough, because each answer from EPA or Marquis simply becomes the premise for Petitioner to assert a new alleged defect.

At a high level, Petitioner's reply brief contains the same significant problems littered throughout the original Petition: erroneous regulatory interpretations, arbitrary factual conclusions, and demands for unwarranted additional analysis. None of these new issues affect EPA's ultimate decision to issue the permit. The record supports the conclusion that CO₂ injection at the Marquis site will be safe and protective of all underground sources of drinking water ("USDW") in the area, there are no pathways for fluids (including the old WPL-1 injectate) to penetrate into a USDW, and the confining layers are suitable for carbon sequestration.

II. ARGUMENT

The reply brief's treatment of **Issue 3** illustrates the problem particularly well. In its opening brief, Petitioner argued that the modeling supporting the decision to authorize a 12-year post-injection site care ("PISC") period was defective because it failed to include certain modeling parameters, did not acknowledge Illinois Basin-Decatur Project ("IBDP") well failures, and allegedly utilized an incorrect initial pressure state to predict well pressure decline. Petition at 25–27. Petitioner did not raise arguments that EPA's approval violated Section 146.93(c)(2)(iv) or challenge EPA's calibration determination. Now for the first time, Petitioner raises a theory that would effectively nullify EPA's regulatory authority to approve an alternative PISC timeframe as part of the permitting process. Petitioner argues that the Area of Review ("AoR") model must be "calibrated" before the permit may be issued. Petitioner then interprets EPA guidance to suggest that a properly calibrated model must include actual post-operational

data. Reply at 27. And at this point, Petitioner manufactures an unworkable standard. Petitioner suggests that “calibration” must be complete before the PISC period can be adjusted, even though the PISC is set at the time of permit issuance, not after operations. *See* 40 C.F.R. § 146.93(a). EPA’s regulations, however, permit predictive modeling and do not impose Petitioner’s impossible standard of obtaining operating data to calibrate a model before permitting of operations. *See* 40 C.F.R. § 146.93(c)(2)(iv) (requiring predictive models to be “calibrated using existing information . . . where sufficient data are available”). Thus, Petitioner’s new argument lacks a legal basis.

Petitioner’s claim also lacks any factual support. The record demonstrates that Marquis submitted a site-specific subsurface model that utilizes industry standard methodologies for CO₂ injection, and EPA thoroughly reviewed the models and determined that all of the criteria necessary for issuance of a permit with a 12-year PISC were met. Petitioner’s mere opining as to whether the model utilized here was appropriately calibrated simply does not satisfy the applicable standard for remanding EPA’s technical determination. *In re NE Hub Partners, L.P.*, 7 E.A.D. 561, 567–68 (EAB 1998) (“In permit appeals, the Board traditionally assigns a heavy burden to persons seeking review of issues that are quintessentially technical.” (cleaned up)); *see also id.* (“When issues raised on appeal challenge a Region’s technical judgments, clear error or a reviewable exercise of discretion is not established simply because petitioners document a difference of opinion or an alternative theory regarding a technical matter.”).

Marquis’ computational modeling satisfies 40 C.F.R. § 146.84(a)’s requirement that the AoR be delineated using a model accounting for the physical and chemical properties of all phases of the injected CO₂, because the analysis was built on a static earth model (“SEM”) constructed in Schlumberger Petrel® and then dynamically simulated with Computer Modelling

Group's Generalized Equation-of-State Model reservoir simulator ("CMG-GEM"). Both models are industry-standard platforms widely used and peer-accepted for Class VI and CCS reservoir modeling. Battelle, the third-party contractor with substantial subsurface CO₂ storage modeling experience, performed the modeling. It used site-specific geologic and petrophysical data rather than generic or regional defaults, supporting the model's representativeness of actual subsurface conditions. The two-model design, a 7x7 mile plume model and a 100x100 mile AoR model, is a conservative, defensible approach that avoids artificially truncating plume or pressure-front extent.

Petitioner's new theory thus imposes a purported prerequisite that the regulation does not contain and that could not be satisfied before injection. This Board should decline to consider it.

For **Issue 1**, Petitioner raises new claims under five additional Class VI provisions and seeks a new, across-the-board remedy based on those claims. The Petition alleged that 40 C.F.R. Sections 146.81(d) and 146.84(c)(1) required the WPL-1 K062 hazardous-waste plume to be incorporated as an initial condition in the AoR model. Petition at 14–20. The reply brief now asserts that, if K062 qualifies as a "formation fluid," EPA also violated Sections 146.83(a)(2), 146.88(a), 146.93(c)(1)(ii), 146.93(c)(1)(vii), and 146.94(a). Reply at 16–17. It then asks this Board to require "every Region 5 determination relying on the AoR computational model" to be reevaluated and reopened for public comment. *Id.* at 20, 26. The Board should reject Petitioner's attempt to raise these new, unmeritorious issues in the reply.

In their response briefs, EPA and Marquis defended the AoR modeling and explained why WPL-1 does not create the endangerment risk Petitioner alleges; those responses do not transform every separate Class VI provision that uses modeling information into another ground for review. Petitioner now attempts to suggest EPA needed to consider WPL-1 as a "formation

fluid” despite acknowledging that EPA regulations define this term to exclude waste plumes, like WPL-1, from the regulatory definition. Reply at 15–16. This argument is contrary to EPA regulations and thus fails. The remainder of Petitioner’s arguments on this issue continues to fail to show a potential impact to underground drinking water sources and thus cannot demonstrate the provision-specific clear error required by 40 C.F.R. § 124.19(a)(4). This Board should decline to consider those new claims.

As for **Issue 6**, Petitioner raises a new purported requirement that neither the regulations nor the technical document on which it relies imposes: that EPA consultant Cadmus Group LLC’s (“Cadmus”) discussion of epoxy plugs establishes a five-part regulatory test that requires monitoring at WPL-1 itself. Reply at 35–37. Section 146.84(c)(3) requires EPA to determine whether abandoned wells were plugged in a manner that prevents fluid movement that may endanger USDWs; it does not require a monitoring station at every artificial penetration within the AoR.

The Petition did not present this new theory. It challenged EPA’s alleged failure to analyze pressure effects on WPL-1 integrity and raised state-jurisdiction issues. Petition at 30–33. It did not discuss Cadmus’s five-part standard for epoxy plugs, argue that the fifth condition requires monitoring at WPL-1, or contend that because no monitoring “observes anything at WPL-1,” the Cadmus monitoring condition is unsatisfied and renders EPA’s corrective-action determination deficient. Reply at 36–37.

Petitioner also misreads Cadmus. Its fifth consideration refers to a “robust monitoring and contingency plan”; it does not prescribe specific monitoring physically located at the WPL-1 injection point. The Permit requires plume and pressure monitoring, establishes triggers for unscheduled AoR reevaluation, and includes an Emergency and Remedial Response Plan.

Neither Cadmus nor Section 146.84(c)(3) converts those protections into a requirement for monitoring at every artificial penetration. This Board should decline to consider Petitioner’s new WPL-1-monitoring theory.

As for **Issue 9**, Petitioner adds two new arguments not presented in the Petition: prescribed pre-injection testing of future confining-zone cores and renewed corrective-action determinations for six other wells. Reply at 46. Neither follows from the confining-zone requirement Petitioner challenged in the Petition. Petition at 39–41.

Petitioner now asks this Board to require “pre-injection testing at MCI CCS 3 to include mineralogy, permeability, and threshold entry pressure measurements on the confining-zone cores.” Reply at 46. The Petition instead sought a renewed confining-zone suitability determination addressing the alleged discrepancies with certain documents—not a new, prescriptive testing regime. *See* Petition at 42. This additional testing requirement appears for the first time in the reply brief, and Petitioner identifies no Class VI regulation requiring those particular measurements as an additional pre-injection condition.

Petitioner also expands Issue 9 to challenge the corrective-action determinations for “each of the six wells that penetrate the Eau Claire Formation but not the injection zone,” claiming that EPA “relied on the remaining unpenetrated thickness, never asking whether it contains the shale intervals said to provide containment.” Reply at 46 (citing A.R. #1685). The Petition raised no such challenge to those well-specific determinations. This new theory cannot be used on reply to recast Issue 9 into a separate challenge to determinations—with respect to other wells—that Petitioner never put before this Board in the Petition.

III. CONCLUSION

For these reasons, this Board should decline to consider the new arguments Petitioner raises for the first time in its reply brief. At minimum, those arguments do not supply a basis to disturb EPA's permitting decision, and the Petition should be denied.

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Respectfully submitted,

/s/ Peter Whitfield
Peter Whitfield
SIDLEY AUSTIN LLP
1501 K Street, N.W.
Washington, D.C. 20005
Telephone: (202) 736-8531
pwhitfield@sidley.com

Byron F. Taylor
SIDLEY AUSTIN LLP
One South Dearborn
Chicago, IL 60603
Telephone: (312) 853-4717
bftaylor@sidley.com

Brittany A. Bolen
SIDLEY AUSTIN LLP
1501 K Street, N.W.
Washington, D.C. 20005
Telephone: (202) 736-8416
bbolen@sidley.com

Counsel for Permittee Marquis Carbon
Injection LLC