

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

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In re:	)		
	)		
	)		
FutureGen Industrial Alliance, Inc.	)	UIC Appeal Nos.:	14-68
	)		14-69
Permit Nos.: IL-137-6A-001	)		14-70
IL-137-6A-002	)		14-71
IL-137-6A-003	)		
IL-137-6A-004	)		

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**PETITIONERS' CONSOLIDATED REPLY IN SUPPORT OF THEIR  
PETITION FOR REVIEW**

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The Andrew H. Leinberger Family Trust, DJL Farm LLC, William Critchelow, and Sharon Critchelow (collectively, “Petitioners”), submit this Consolidated Reply in Support of their Petitions for Review, in reply to EPA Region 5 (“USEPA”) Consolidated Response to Petitions for Review and FutureGen Industrial Alliance, Inc.’s (“FutureGen”) Consolidated Response to Petitions for Review (FutureGen and USEPA together are referred to as “Petitioners”). In light of the Environmental Appeals Board’s (“EAB” or “Board”) consolidation of the four separately-filed Petitions for purposes of appeal, the four petitions are collectively referred to herein as “Petitions” and the four permits collectively referred to as “Permits.”

### **INTRODUCTION**

Respondents fail to address the argument that, due to the Permits’ first of their kind status, this case presents important policy issues that warrant remand and the EAB should exercise its discretion to review the Permits. Instead, Respondents focus on the clear error standard of review. While there is no doubt that clear error exists with regard to the AoR, the monitoring network, abandoned wells and financial protections for the Permits, the EAB must also consider these issues under the separate standards of review that involve an important policy consideration or an exercise of discretion. Rather than accept Respondents position that the Permits meet a “minimum” standard that is good enough for now, the EAB should review and remand these important policy issues and asserts its discretion in light of a first of its kind project.

### **ARGUMENT**

**I. In Addition to the Clear Error Standard of Review, the EAB Should Review the Permits as an Important Policy Decision and using its Exercise of Discretion.**

There is no question that challenges to the Permits may be based on a finding of fact or conclusion of law that is clearly erroneous. However, there are additional standards of review

that Respondents neglect to substantively discuss – “an exercise of discretion or an important policy consideration that the EAB should, in its discretion, review.” 40 C.F.R. 124.19(a)(4). These standards have paramount importance in permit appeals where, as here, all parties agree that the Permits are a first-of-their-kind (See e.g. *FutureGen Resp.* pp. 1, 6, “world’s first” project of this kind and “first Class VI injection well permits”).<sup>1</sup> FutureGen states that its project has “important energy policy and regulatory implications” (*FutureGen Resp.* p. 30). Similarly, USEPA states that the project has “magnitude and complexity” (*USEPA Resp.* p. 3). Respondents simply avoid the argument that, due to the Permits’ unique status, the EAB should exercise its discretion to review the permit decisions with a focus on ensuring USEPA strictly follows its own regulations and guidance.

Petitioners repeatedly request that the Board fully consider the important policy matter and discretionary matter standards as a basis for review. The Petitions discuss in detail the facts in the record as they relate to the satisfaction of the policy standard and the exercise of discretion standard, and Petitioners consistently request that the Board use its discretion to require USEPA to strictly apply the regulations and guidance for the first of kind Permits (See *Petitions*, pp. 7, 13-15, 16, 17, 19, 21-23, 26, and 28-29). Respondents’ failure to address the two standards<sup>2</sup> is a misguided attempt to shift attention away from them. FutureGen tries to shoehorn Petitioners’ arguments as only involving the clearly erroneous standard, devoting 21 pages of their Response to the “clearly erroneous” standard, and only two cursory paragraphs to the remaining standards

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<sup>1</sup> Significantly, FutureGen could not get insurance for its project beyond the “drilling and well construction phase.” *USEPA Resp.* p. 31; (AR#249, AR#250, AR#267, AR#269, AR#271, AR#295). The inability to get insurance is a testament to the extraordinary risk associated with this experimental project.

<sup>2</sup> Respondents’ failure to substantively address these standards is an admission that these standards are met. See *Augustus v. McHugh*, 870 F. Supp. 2d 167, 172 (D.D.C. 2012) (a party’s failure to substantively respond to arguments concedes those arguments); *Newman v. United States*, No. 13-CV-0719 (KBJ), 2014 WL 4922584, at \*4 (D.D.C. Sept. 30, 2014) (same; collecting cases).

(*FutureGen Resp.*, pp. 7-28, 29-30). The USEPA does not address them at all (*USEPA Resp.* pp 6-37).

As every respondent does, Respondents cite to the preamble to part 124 regarding the Board sparingly granting review. Sparingly, however, is not tantamount to never. There will rarely be a case such as this, where review and remand is overwhelmingly appropriate due to the combination of: (1) the USEPA's failure to support and explain its decisions -- constituting clear error; (2) first-of-a-kind Class VI Permits involving the new and commercially untested carbon sequestration technology; (3) important policy matters; and (4) exercises of discretion. In less compelling circumstances, the Board has not wavered from its duty to review and remand. See e.g., *In re: Town of Concord Dep't of Public Works*, NPDES Appeal No. 13-08, pp. 5, 14, 20, 26-27 (E.A.B. 2014) (noting the preamble, but remanding where the EPA failed to adequately explain the basis for portions of its decision to issue a permit and failed to use considered judgment); *In re: ESSROC Cement Corp.*, RCRA Appeal No. 13-03, slip op. at 33 (EAB July 30, 2014) (remanding a permit); *In re: Chevron Michigan, LLC of Traverse City, Michigan*, UIC Appeal No. 12-01, p. 6, 15 E.A.D. \_\_ (E.A.B. 2013); *In re: Bear Lake Properties., LLC*, UIC Appeal No. 11-03, 2012 WL 2586960 slip op. at 22 (EAB June 28, 2012) (remanding a permit); *In re: City of Marlborough*, NPDES Appeal No. 04-13, 12 E.A.D. 235 (E.A.B. 2005) (remanding a permit).

Even when FutureGen briefly discusses the policy and discretionary standards, it mistakenly suggests that Petitioners seek a higher standard than contained in the regulations, and then argues that Petitioners must establish that decisions were "arbitrary" in order to obtain a review of the Permits (*FutureGen Resp.* p. 29). There is no such "arbitrary" standard. Further, given the apparent deference and discretion USEPA seeks (See e.g. *USEPA Resp.* pp. 15, 17;

*FutureGen Resp.* pp. 8, 16), Petitioners simply ask that the EAB use its discretion to carefully review USEPA’s decisions.<sup>3</sup> USEPA cannot be permitted to ignore recommendations from its own guidance documents and fail to adequately explain and support those decisions. Although it may have some discretion, “the Board has emphasized that a permit issuer must adequately explain[] its rationale and support[] its reasons in the record[, and] [t]he Board will not hesitate to order a remand when a Region’s decision on a technical issue is illogical or inadequately supported by the record.” *In re: Stonehaven Energy Mgmt, LLC*, UIC Appeal No. 12-02, 2013 WL 1308715, slip op. at 18 (EAB March 28, 2013); *e.g.*, *In re: Town of Concord*, slip op. at pp. 5, 14, 20, 26-27. Additionally, the Board will not defer to the USEPA on science or technical issues where there are “compelling circumstances.” *In re: ESSROC Cement Corp.*, RCRA Appeal No. 13-03, slip op. at 30. As explained in the preceding paragraph, there are compelling circumstances in this case that warrant a review.

## **II. Respondents Must Present an Accurate and Conservative AoR and Plume Size**

In response to Petitioners’ arguments that the plume size is understated and that inaccurate pressure delineation results in an incorrect AoR, Respondents generally state that the AoR and plume size are good enough for now and will be reassessed as the project continues (See *USEPA Resp.* p. 7; *FutureGen Resp.* p 14, 17). USEPA states it is a “technical quibble” that Petitioners are concerned that the plume size is at least 125% larger than presented in the Permits, the AoR is not fully presented, and the model is not correct. These “technical quibbles” are substantive issues with the FutureGen model raised by an expert in the field of modeling --

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<sup>3</sup> Respondents argue that USEPA should be given technical deference to decide when to reject recommendations from its own guidance (*USEPA Resp.* pp. 15, 19; *FutureGen Resp.* p. 8). Although it is generally agreed that USEPA may be given deference in situations where it has particular expertise, USEPA has no such expertise in this case, nor have they cited to any, given the Permits are experimental, first of kind projects.



an expert USEPA itself retained to draft the UIC guidance documents (See *Petition*, Ex. 1, pp. 1-2).<sup>4</sup>

Initial project modeling is essential for two critical components of underground sources of drinking water (“USDW”) protection performed prior to initiation of CO<sub>2</sub> injection at the project: (1) determining the site AoR, and therefore the area for abandoned well surveys (§146.84); and (2) design of the site monitoring network (§146.90(d)). Conservative modeling approaches are necessary at the beginning of the project to provide sufficient protection of USDWs in light of inherent uncertainty. USEPA argues that the “iterative framework” of sequestration project modeling and risk evaluation allows it to adjust the model over time (*USEPA Resp.* p.7).

However, the Class VI regulation’s iterative framework was not intended to negate a conservative evaluation of project risk at the outset of the project. As stated in USEPA’s Guidance, “Conservative predictions will be needed prior to the commencement of injection and the availability of any site-specific data on carbon dioxide migration paths and rates” (USEPA AoR Guidance, AR 439, p.38). When USEPA deviates from its guidance documents, it should be required to explain the bases for its decision. *In the Matter of S.D. Warren Company*, 3 E.A.D. 727, p.3 (EAB 1991)(Permit remanded for Region to demonstrate the challenged permit terms are consistent with agency policy stated in guidance, or explain why a deviation is appropriate). Here, USEPA merely asserts, without detailed explanation, that models are inherently imprecise and can be fixed later. Contrary to USEPA assertions (*USEPA Resp.* p.7), Petitioners are not seeking precision; Petitioners understand the inherent uncertainty in these

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<sup>4</sup> Further, USEPA’s published guidance cites to modeling articles written by Petitioners’ expert Dr. Gregory Schnaar (AoR Evaluation and Corrective Action Guidance, AR 439 at page 28, citing “Schnaar and Digiulio, 2009.”

analyses and for this very reason request conservative project assessment and modeling consistent with USEPA's own published guidance.

As its response to specific comments concerning inaccuracies in the model, USEPA repeatedly states that it conducted its own independent model and/or its own independent review of FutureGen's model. The overarching, repetitive nature of this statement is evident in USEPA's Response to Comments which states, over and over again, that USEPA conducted "independent review," "independent modeling" and an "independent modeling assessment" (AR#511, pp. 42, 57, 60, 61, 62, 73 ("EPA conducted an independent modeling"), 75, 76 (EPA independent modeling), 77, 78, 79, 81, 83, 84, 85, 86, 102 (modeling was evaluated and independently remodeled by EPA)). Petitioners' expert, Dr. Schnaar explained in the Petition that USEPA did not conduct an independent model, but merely re-created the FutureGen model (*Petition*, p 10, Ex. 1 pp 2-4).

USEPA now states that it is not required to conduct independent modeling, citing to Guidance that USEPA "may, as appropriate, *replicate* the computational modeling exercise...this is precisely what Region 5 did regarding plume delineation." (*USEPA Resp.* pp. 9-10, emphasis added). Although Petitioners agree that USEPA is not *required*, under its own guidance, to create an independent model or review, USEPA repeatedly *insists* they that they did so as justification for accepting FutureGen's delineation of the AoR and CO<sub>2</sub> plume (*Id.*; see e.g. EPA Response to Comments pp. 73 and 76 where EPA specifically states that "*EPA conducted independent modeling of the AoR*"). USEPA now admits that it did not conduct an independent model and concedes that its model was merely a "replicate" of FutureGen's model. As a result, USEPA's reliance on their replicate model to justify their decisions on the AoR and plume, while stating to the public that their analysis was independent, is clear error.

In an apparent effort to avoid Dr. Schnaar's expert analysis, USEPA presents a misguided argument that the Petitions do not properly cite to the Administrative Record (*USEPA Resp.* p.8, fn 5). The Petitions incorporate Dr. Schnaar's Supplemental Report, which in turn properly references USEPA responses to comments.<sup>5</sup> Dr. Schnaar's first comment, concerning the lack of independence in USEPA's model, is a general one, applying to *all* of USEPA's many references to its "independent model" in its Response to Comments. There was no need to cite to each and every reference because, as noted above, the statements are pervasive throughout the Response to Comment document. Dr. Schnaar instead made the general comment to point out to the EAB, on review, that USEPA clearly erred because the model is not, in fact, independent and thus does not justify the errors in the FutureGen model. Dr. Schnaar goes on to then specify the errors in the model in the remainder of his Report, citing each time to the comment and the response (See footnote 5, below).

Ultimately, the errors with the model raised in Petitioners' comments and Petition for Review have not been addressed. Respondents fail to address Petitioners' comment that USEPA has no basis for claiming that "very low concentrations of CO<sub>2</sub> are not worth plotting on informative maps," which is inconsistent with existing guidance and ignores the potential risks to drinking water wells posed by supercritical CO<sub>2</sub> (See *Petition*, Ex. 1, p. 7). Although FutureGen asserts, again, that it has modeled 100 percent of the CO<sub>2</sub> (*FutureGen Resp.* p. 11-12), FutureGen has never presented maps of the full projected extent of 100% of the supercritical carbon dioxide plume based on their model assumptions. Respondents are asking the EAB to

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<sup>5</sup>USEPA's argument appears to be limited to Dr. Schnaar's first point on Page 2 of his Supplemental Report (Petitions, Ex. 1, pp. 2-4) because Dr. Schnaar's remaining points clearly cite to the original comment and USEPA response. His points 3.2 and 3.3 (both regarding the same issue) cites to AR#497, comment 3.2 and USEPA's response at AR#511, p. 83, comment 3.38 (*Petitions*, Ex. 1, pp. 4-6); his fourth point (3.4) cites to AR#497, Ex. 2, p.4, comments 3.3 and 3.4 and then to USEPA's response at AR#511, p. 58 (See *Petitions*, Ex. 1, p. 7); similarly, his remaining points (5-7) each specifically refer to the original comment and to USEPA's response (*Petitions*, Ex. 1, pp. 8, 9, 10, 12).

simply trust that it was in fact modeled (See *FutureGen Resp.* p 12, citing to a phone record). Importantly, the aerial projection of the extent of the carbon dioxide plume may be significantly understated in FutureGen's diagrams, by a percentage much greater than 1% (See USEPA Resp. p. 12 where USEPA argues "1% does not establish flaws in plume model"). This is because the plume tends to become thinner at the boundaries, in the area designated as the "thin leading edge," and therefore contain a relatively small amount of mass while traveling far from the injection wells. Dr. Schnaar re-iterated the importance of mapping the full extent of the plume, including the "thin leading edge" that represents the exterior boundary of the plume (*Petitions*, Ex. 1, p. 7).

Respondents also fail to respond to Petitioners' comment that USEPA is ignoring potential risks from the dissolved phase plume, inconsistent with USEPA-funded research projects on this subject (See *Petitions*, Ex. 1, pp. 8-9). USEPA incorrectly asserts that the pressure front delineations are "uncontested" by Petitioners (USEPA Resp. p.9). This is simply not the case. Dr. Schnaar specifically commented that modeled pressure, and therefore the pressure front delineation, are impacted by model assumptions and input parameter values (AR#497, Ex. 2, p.3; *Petitions* Ex. 1, pp. 4-6). By incorporating appropriately conservative model input parameter values, the delineated pressure front and AoR may increase in size. FutureGen admits as much in their permit application (AR#1, 2 p. B-25), where they state that the modeled plume and pressure-front may be underestimated by incorporating a small value of residual water saturation in their modeling. Project modeling of the extent of the supercritical CO<sub>2</sub> plume, dissolved-phase CO<sub>2</sub> plume, and pressure front is not used solely for delineation of the AoR, but rather for support of an integrated understanding of project risk to USDWs and design of the site monitoring network (See e.g. USEPA regulations requiring that modeling be used in design of

the site monitoring network, §146.90(d)). Risks to USDWs are generally understood to be greatest in areas overlying the extent of the CO<sub>2</sub> plume. Therefore, modeling concerns related to the extent of the supercritical and dissolved-phase plumes are relevant even if they will likely have minor impact on the extent of the AoR (as it is defined by the extent of the pressure front).

Without responding to Dr. Schnaar's specific comments, FutureGen generally responds that its model input parameter values and sensitivity analyses were reasonably conservative (*FutureGen Resp.* pp. 11, 13) and thus good enough. Dr. Schnaar discussed the inadequacy of FutureGen's sensitivity analysis and overall modeling approach in his original expert report (AR#497, Ex. 2, p. 3). USEPA did not address the comment other than to say, again, that they conducted an independent review (*USEPA Resp.* p. 82). FutureGen used two different field techniques to measure intrinsic permeability of the Lower Mt. Simon, and these two methods yielded results that varied by a factor of 4.0 (i.e., 400 percent). However, when testing the sensitivity of their model to this parameter, FutureGen varied their model-assumed value of intrinsic permeability by only 25 percent. FutureGen's sensitivity analysis therefore did not even consider the full range of permeability values that they themselves measured in the field. A similar non-conservative approach is FutureGen's incorporation of the residual water saturation parameter in their modeling. As admitted in their permit application (AR#1, 2 p. B-25), FutureGen's incorporation of a small residual water saturation value leads to underestimation of the size of the plume and pressure-front. A conservative approach in this instance would have been to incorporate larger values of the residual water saturation, for example as based on the literature cited by USEPA (*Petitions*, Ex. 1, p. 6). Although FutureGen attempts to dispute application of USEPA cited literature (*FutureGen Resp.* p. 13), FutureGen provides no discussion of the third study cited by USEPA: Krevor et al., 2012. This study, performed by

researchers at Stanford University, measured residual water saturation in a rock core collected from the Mt. Simon formation within Macon County, and obtained a value of 0.22 (compared to FutureGen's tested range of 0.0597 to 0.0810). Finally, even FutureGen admits to having selected a "parsimonious" set of parameters upon which to conduct the sensitivity analysis (AR#1, 2, p.3-41; see also AR#497, Ex. 2, p. 3). Again, USEPA provided no response to this comment (*USEPA Resp.* p 82). This approach is not one that would, by design, rigorously evaluate model uncertainty resulting from data limitations, and provide a reasonably conservative estimate of plume migration.

### **III. The Monitoring Network is not Sufficiently Documented in the Testing and Monitoring Plan.**

USEPA clearly erred in approving the Testing and Monitoring Plans without sufficient information as required by USEPA regulations (§146.90(d)). In Dr. Schnaar's original comments, he states, "FutureGen should present a detailed justification for monitoring well placement and add additional monitoring wells as necessary based on the more-recently delineated AoR"(AR#497, Ex.2, p. 7). USEPA provided no response to the comment other than a definitive statement, without support, that "the two monitoring wells...are sufficient" and they will review the issue later (AR#511, p.170). As a result, Dr. Schnaar restates the comment (*Petitions*, Ex. 1, p. 9).

This Board has made it clear that "the permit issuer must articulate with reasonable clarity the reasons supporting its conclusion and the significance of the crucial facts it relied upon when reaching its conclusion." *In re: Town of Concord*, slip op. at p. 5 (internal citations omitted). Here, USEPA has not adequately explained its rationale when the basis for its decision to approve the monitoring plan is described for the first time in the Response (and not in USEPA's Response to Comments), and has to be gleaned from a long series of documents that

include email exchanges and records of conversations (*USEPA Resp.* p 15, *citing to 38 separate documents; FutureGen Resp.* p.16 citing some of the same 38 documents). Neither this Board nor Petitioners should have to wade through approximately 600 documents in the Record to determine which page might explain USEPA’s position.<sup>6</sup>

USEPA’s attempt to justify the monitoring network now, by stating there are “nine monitoring wells” planned at the project, is misleading; only two of these wells are intended for early detection of fluid leakage to be protective of USDWs (*USEPA Resp.* p. 15). Petitioners’ comments regarding the monitoring network relate to the number and placement of wells that are intended to detect fluid leakage that may endanger USDWs, in sufficient time to implement remedial measures and protect USDWs (“early detection wells”). As stated in §146.90(d) (*USEPA Resp.* p.14), these monitoring wells are required to be placed above the confining zone. Of the nine planned monitoring wells at the project, six are planned to be perforated within the injection zone, two above the confining zone, and one in the lowest USDW. The six injection-zone wells are not intended to detect leakage that may endanger a USDW. If fluid leakage is detected within a USDW, that USDW is already endangered. Therefore, only the two wells perforated directly above the confining zone are relevant and, as stated above, the justifications for these wells are insufficient. Neither Respondent has provided a systematic, detailed and rigorous explanation for why only two proposed monitoring wells will be sufficient for early detection of leakage that may endanger a USDW; nor how the number and placement of these wells was determined based on site specific data (i.e., baseline geochemistry, project modeling) as required by the regulations (§146.90(d)).

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<sup>6</sup> USEPA suggests that it supported its rationale in the Response to Comments, citing to 9 separate comments (*USEPA Resp.* p. 18). A review of those comments reveals they consist of responses to FutureGen comments that are unrelated to monitoring well location or placement, and are largely repetitive (*Id.*) USEPA fails to adequately explain their rationale.

#### IV. Respondents' Incorrectly Interpret SDWA Regulations Regarding the Identification of Wells

Respondents essentially argue that the identification of water, gas and oil wells was good enough because they identified *most* of the wells in the AoR (*FutureGen Resp.* pp. 18-20; *USEPA Resp.*, pp. 19-25). Respondents fail to satisfy the regulations requiring identification of (1) “all” wells needing corrective action; *and* (2) “all” wells that can be identified via public information. As shown below, Respondents implicitly concede that they have failed to make both foregoing identifications, which necessarily means the SDWA regulations were not satisfied.

##### A. Respondents are Required to Identify “All” Wells Requiring Corrective Action.

The regulations could not be clearer on the point that *all* wells must be identified in order to determine those needing corrective action:

Owners or operators of Class VI wells [FutureGen] must ... identify **all** wells that require corrective action:

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(2) ... identify **all** penetrations, including active and abandoned wells ... in the area of review that may penetrate the confining zone(s). ...; and

(3) Determine which abandoned wells in the area of review have been plugged in a manner that prevents the movement of carbon dioxide or other fluids that may endanger USDWs ....

40 C.F.R. § 146.84(c)(2) and (3) (emphases supplied). Further, the regulations provide, in relevant part:

Owners or operators of Class VI wells [FutureGen] must perform corrective action on **all** wells in the area of review that are determined to need corrective action ....

40 C.F.R. § 146.84(d) (emphases supplied).

These regulations show that the Permits could not be issued until and unless “all” wells needing corrective action were identified and described (AR #497, pp. 3, 8, Ex. 1 at pp. 3-5; 40



C.F.R. § 146.82(a) and 146.84(c) and (d)). Respondents' arguments overlook the requirements under §146.84 requiring identification of "all" wells needing corrective action, *regardless* of whether the wells are identified in public information. The regulation required Respondents to go beyond reference to a single, inaccurate database.

Respondents put the proverbial cart in front of the horse when they posit that they only need to identify those wells which they know need corrective action (*FutureGen Resp.* p. 18; *USEPA Resp.*, p. 20). Their argument begs the question of *which* wells require corrective action. *See Sciacca v. Fed. Bureau of Investigation*, No. 08CV2030KBJJMF, 2014 WL 879557, at \*9 (D.D.C. Mar. 6, 2014). If a well is unidentified, it is unknown whether it needs corrective action. In light of the numerous unidentified wells near the anticipated plume (not to mention the AoR, including Petitioners' wells), the regulations are not satisfied.

**B. Respondents' Incorrectly Rely Solely on Public Information and Fail to Identify "All" Wells.**

The SDWA regulations regarding well identification further provide, in relevant part:

This section sets forth the information which must be considered by the Director in authorizing Class VI wells. ... (a) Prior to the issuance of a permit for the construction of a new Class VI well ..., the owner or operator shall submit, pursuant to § 146.91(e), and the Director shall consider the following:

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(2) A map showing the injection well for which a permit is sought and the applicable area of review consistent with § 146.84. Within the area of review, the map must show the number or name, and location of **all** injection wells, producing wells, abandoned wells, plugged wells or dry holes, deep stratigraphic boreholes, ... water wells, other pertinent surface features... The map should also show faults, if known or suspected. Only information of public record is required to be included on this map;

40 C.F.R. § 146.82 (emphases added). As discussed below, there is more to the public record than a single (inaccurate) Illinois database. Respondents do not argue otherwise (*FutureGen Resp.*, pp. 18-20; *USEPA Resp.*, pp. 19-25). Respondents' discussion fails to account for the fact

that wells can be identified from public information through avenues *other than* the single Illinois database they exclusively relied upon.

Respondents did not argue that they conclusively identified “all” wells needing corrective action. Nor did they argue that they identified “all” wells using all publicly available information. Even if they had, those arguments are not supported by the record. This alone requires review and remand. *In re: Stonehaven Energy Mgmt, LLC*, UIC Appeal No. 12-02, slip op. at 18 (EAB March 28, 2013), 15 E.A.D. \_\_ (Requiring USEPA to provide sufficient support in the record for its rulings).

**i. Respondents Fail to identify “All” Wells Needing Corrective Action.**

Other than a single, inaccurate database, Respondents point to no evidence in the record showing that it identified all wells in the AoR order to evaluate whether corrective action was needed (*FutureGen Resp.*, pp. 18-20; *USEPA Resp.*, pp. 19-25). By failing to identify a variety of wells within the AoR, including Petitioners’ wells, which are in very close proximity to the injection site (AR#497, Ex. 5), Respondents are not in a position to know whether those wells require corrective action. As a matter of logic, if Respondents do not know if corrective action is required for any given well, they cannot satisfy the SDWA regulations. Respondents’ speculation (unsupported by the record) does not satisfy the regulations.

Additionally, wells requiring corrective action are not limited to only those wells that penetrate the confining zone. Respondents provided no argument or authority to the contrary. The regulations do not limit corrective action to wells penetrating the confining zone.

FutureGen admits that gas wells may not be reflected in the Illinois database (*FutureGen Resp.*, p. 19). The record backs this up (AR#497, Ex. 4). In contrast to Petitioners’ evidence of unidentified gas wells, FutureGen fails to point to any evidence in the record indicating that they

comprehensively identified wells. Moreover, FutureGen fails to support its speculation that gas wells are unlikely to reach the confining zone (*FutureGen Resp.*, p. 19). To the contrary, the record shows that at least two wells penetrated the confining zone. Because of the importance of this topic, it is addressed in detail below in Subsection C.

**ii. Respondents Failed to identify “All” Wells Identifiable Via Publicly Available Information.**

In an attempt to show that § 146.82 was satisfied, Respondents exclusively focus on one Illinois database (*FutureGen Resp.*, p. 19; *USEPA Resp.*, pp. 20-21). Respondents focus only on this single database because they did not do anything else to identify gas, oil, and water wells using publicly available information. Respondents’ sole reliance on the Illinois database fails for at least four, independent reasons.

First, the database is not accurate or up-to-date. There is no information in the record showing otherwise. Respondents do not even argue otherwise (*USEPA Resp.*, p. 21). To the contrary, the record shows (1) the well database is inaccurate and not up-to-date (AR#514 – stating that well records are “sparse” and that the State does “not have documentation of all wells”); (2) there were wells in the AoR that requiring corrective action (AR#511, pp. 93-94, Comment 3.49, AR#514). Reliance on a single database accompanied by express disclaimers of its accuracy and comprehensiveness cannot satisfy FutureGen’s regulatory obligation to identify “all” wells. (See AR#511, pp. 93-94, Comment 3.49, AR#514).

Second, the USEPA’s own guidance regarding well identification makes clear that reliance on *more than* a single database is needed. The guidance document states that governmental well databases are meant to provide “assistance with the identification of abandoned wells” (AR#439, p. 52, *AoR Evaluation and Corrective Action Guidance*) (emphasis

added). The plain significance of this wording is that Respondents were required to rely on more than a state well database.

Third, USEPA does not explain why it did not rely upon more than the outdated and inaccurate Illinois database. USEPA's internal guidance document clearly provides that Respondents should have also relied on county records, historical records, site reconnaissance, aerial and satellite imagery, and geophysical surveys (particularly where gas and oil wells are located in the area, as is the case here). (AR#439, pp. 52-54; *Petitions* Ex. 1, pp. 12-13). These additional methods, including but not limited to physical inspections for other wells, involve information publicly available through governmental entities and private sector entities who sell or otherwise make information available to the public (*e.g.*, Google).

Additionally, USEPA's internal guidance document discusses these multiple well identification measures as the "primary stages of an abandoned well investigation." (AR#439, p. 52) (emphasis added). It also states that a "records review" is *only* the "first step in abandoned well identification" (AR#439, p. 52) (emphasis added). Respondents make little effort to address Petitioners' discussion of USEPA's internal guidance document (AR#439), and they do not argue that the foregoing methods of well identification are impossible or difficult to use in this case.

USEPA tries to distance itself from its internal guidance document by stating that it is "merely advisory" and may not apply to every situation (*USEPA Resp.*, p. 21). Even if that were true, it remains that USEPA failed to sufficiently explain its reasoning in the record for departing from its own guidelines, particularly for first-of-its-kind permits. USEPA must explain, in the record (and not merely in briefing), why it severely limited its well identification activities and

failed to follow its own guidelines, particularly on the important issue of protecting underground drinking water sources.<sup>7</sup>

Fourth, Respondents did not provide any legal precedent for their reliance on only a single database. Moreover, contrary to Respondents' suggestion (*e.g.*, *FutureGen Resp.*, p. 19), the regulations placed the burden of original compliance with the regulations squarely on Respondents. 40 C.F.R. § 146.84(c)(2), (c)(3), and (d). While Petitioners bear the burden on appeal of showing that USEPA erred, that does not alter FutureGen's original burden to comply with the regulations. See *In re: Bear Lake Properties, LLC*, 2012 WL 2586960 slip op. at 11.

### **C. Respondents' Arguments regarding Gas and Oil wells are Misplaced.**

Contrary to Respondents' arguments, natural gas and oil wells can extend deep, and into the confining zone (*See, e.g.*, *USEPA Resp.*, p. 21). It is reasonably likely that prior oil or gas activities in the AoR penetrated the confining zone. This is particularly concerning for wells Respondents failed to identify that are located very close to the anticipated CO<sub>2</sub> plume. Two items in the record prove this reasonable likelihood.

First, as Respondents' must concede, the Whitlock well (#7-15) and Criswell well (#1-16) are oil or gas wells that artificially penetrate the confining zone (*USEPA Resp.*, p. 20; AR#15 and 538). These wells disprove Respondents' theory that unidentified wells in the AoR, including unidentified Leinberger gas wells located close to the plume (AR#497, Ex. 1, p. 4) need not be investigated because they would not penetrate the confining zone (*FutureGen Resp.*, p. 19). Moreover, FutureGen conspicuously avoids any reference to these two wells because they directly contradict FutureGen's argument that oil and gas wells "are unlikely to reach the confining zone ..." *Id.*

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<sup>7</sup> USEPA was required to set forth its explanation in the record. Proffered explanations in appeal briefing is insufficient. This point applies to numerous arguments Respondents make in their responses.

Second, USEPA's guidance document states that oil and gas wells can be deep: "Most deep wells that may penetrate the primary confining zone of a proposed sequestration project site are related to oil and gas exploration and production. Deep well drilling for oil and gas exploration dates back to the 1870s." (AR#439, p. 52) (emphasis added). FutureGen's application shows there is an oil field and *multiple* natural gas fields within the AoR *and* located in close proximity to the injection site (AR#2, p. 2.49, showing numerous gas and oil wells in the AoR and in close proximity – less than six miles from the injection site).

If the Whitlock and Criswell wells, located much farther than six miles from the injection site, needed to be plugged, then wells much closer also require corrective action. The uncontradicted evidence in the record shows that there are 17 oil and gas wells located on Petitioners' property, which are less than one and a half miles from FutureGen's prediction for the plume location (AR#497, Ex. 4).

In addition to the record, in combination, Respondents implicitly concede the reasonable likelihood. FutureGen admits that there can be as little as 1,700 feet between underground drinking water sources and the confining zone (*FutureGen Resp.*, p. 7). USEPA admits that gas and oil wells are going to be deeper than water wells (*USEPA Resp.*, p. 21). The combination of these admissions, as well as the existence of the Whitlock and Criswell wells, make it reasonably likely that wells Respondents failed to identify need corrective action.

In contrast to the foregoing and Petition arguments supported by the record, FutureGen speculates that deep wells are likely to be identified in the Illinois database (*FutureGen Resp.*, p. 19). There is no basis in the record for FutureGen's speculation, which does not satisfy the SDWA regulations.

To address the reasonable likelihood that unidentified wells penetrate the confining zone, industry-standard methods should be used to identify the wells in the AoR currently unidentified by FutureGen. USEPA's guidance shows these to be historical research, site reconnaissance, aerial and satellite imagery, and geophysical surveys (particularly where gas and oil wells are located in the area) (See AR#439, p.52-54; *Petitions*, Ex. 1, pp. 12-13). Respondents do not dispute that USEPA's internal guidance document indicates that these methods should be used. This is direct recognition that state databases are widely recognized to be incomplete and inaccurate.

Additionally, as USEPA stated, overpressurized injection zones may leak fluids into the lower-pressure underground drinking water sources "through a conduit between zones" (*USEPA Resp.*, p. 11, fn. 8). In addition to their depth, wells can be located immediately above geologic formations (fissures, channels, *etc.*) providing migration pathways for CO<sub>2</sub> into underground drinking water sources. FutureGen's application recognizes the risk of CO<sub>2</sub> contamination via "upward leakage through deep oil and gas wells" in connection with E&RR. (AR#1, Appen. C, p. C.14). Hence, it is a recognized risk.

Contrary to Respondents' arguments (*e.g.*, *USEPA Resp.*, p. 22), the regulations do not require Petitioners to prove that there is a migratory pathway for carbon dioxide. Rather, it was incumbent on FutureGen to satisfy the SDWA regulations by showing that corrective action was taken for all wells needing it. The record shows that FutureGen failed. Further, foisting the considerable expense of showing migratory pathways on to members of the public, as Respondents suggest, would violate due process under the Fifth Amendment. *In re Lucre, Inc.*, 434 B.R. 807, 833 (Bankr. W.D. Mich. 2010) ("... the expense of having to seek redress through

a costly and time-consuming appeal could very easily deny an economically strapped debtor or similar litigant due process.”)

**D. The USEPA Fails to Explain Important Discrepancies Concerning the Wells.**

There are important discrepancies that are not explained in the record and cast doubt on Respondents’ credibility. In FutureGen’s application circa early 2013, it affirmatively stated that all wells in the AoR requiring corrective action were corrected (AR#1, 2, Figures 2.15, 2.16, p. 2.25). Nonetheless, USEPA revealed FutureGen’s inaccuracy when USEPA stated in its response to public comments that the Criswell well in the AoR was not plugged until June of 2014 (AR#511, p. 96, Comment 3.51). Additionally, as discussed above, USEPA strayed significantly from its internal guidance document regarding methodology for identifying all wells relevant under the regulations. The record does not contain explanation for this material departure.<sup>8</sup>

These types of discrepancies, and accompanying lack of explanation, has served as a basis for the Board’s review and remand in prior permit appeals. The Board stated in its *In re: Bear Lake Properties., LLC* remand ruling: “Given these apparent discrepancies, as well as the Region’s failure to provide the Board with a clear explanation or analysis ..., the Board is unable to determine, based on the current record, if the Region has satisfied its regulatory obligations. UIC Appeal No. 11-03, slip op. at 12-13 (EAB June 28, 2012), 15 E.A.D. \_\_\_. Other Board rulings are similar. E.g., *In re: Stonehaven Energy Mgmt, LLC*, UIC Appeal No. 12-02, slip op. at 18 (EAB March 28, 2013), 15 E.A.D. \_\_.

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<sup>8</sup> Respondents choose to rely on guidance when it suits their purpose (e.g., *FutureGen Resp.*, pp. 28-29), yet ignore them when they act contrary to the guidance.



**E. Board Precedent Regarding Well Identification Supports Petitioners.**

Respondents did not provide Board precedent for their arguments that FutureGen did not need to identify all wells in the AoR. In distinct contrast, Petitioners relied on *In re: Bear Lake Properties., LLC*, slip op. at 22. In *Bear Lake Properties*, which did *not* involve a first-of-its-kind permit (unlike here), the Board remanded a permit issuance where USEPA failed to take into account all of the drinking water wells within the area of review. *Id.* That case is remarkably similar to the instant case:

Given these apparent discrepancies, as well as the Region's failure to provide the Board with a clear explanation or analysis supporting its conclusion that all water wells within the area of review have been identified and considered, the Board is unable to determine, based on the current record, if the Region has satisfied its regulatory obligations.<sup>10</sup> The Region had a responsibility to ensure that accurate data regarding the number and location of drinking water wells within its selected area of review were identified and considered. The record before the Board is insufficient to support a finding that the Region satisfied its responsibility in this regard. In particular, the Region has utterly failed to clearly articulate its regulatory obligations or compile a record sufficient to assure the public that the Region relied on accurate and appropriate data in satisfying its obligations. ... the Board concludes that the Region has committed clear error by failing to provide a reasoned analysis in the record evidencing compliance with its regulatory obligation to ensure that water wells within the applicable area of review are properly identified and considered prior to permit issuance.

FN. 10 As stated above, the Region argues that even if all water wells were not accounted for, the permits include conditions sufficient to protect USDWs. While this may be true, it does not relieve the Region of its regulatory obligation to properly identify and consider the presence of all water wells in the area of review.

*Id.* at 12-13 and fn. 10. Similarly, *Bear Lake Properties*, the SDWA regulations mandating reliance on accurate information in identifying water, gas, and oil wells were violated. Like *Bear Lake Properties*, USEPA failed to provide a sufficient basis in the record, and failed to provide a reasoned analysis, for its permit issuance. Respondents failed to distinguish this case and should not get an opportunity in a sur-reply brief to address their earlier failures. While this point is raised here, it applies to a variety of points throughout this reply.

Finally, FutureGen disingenuously argues that permits for Petitioners' wells may not have been issued (*FutureGen Resp.*, p. 18). FutureGen fails to provide any authority for its argument and overlooks that older wells were not required to be permitted. USEPA's guidance acknowledges this: "when conducting this historical records search, owners or operators [FutureGen] of proposed Class VI injection wells should be aware that older well records may not have been entered into databases." (AR#439, p. 52).

**F. Review and Remand are Independently Required Under the Two Standards for Matters of Important Policy and Discretionary Matters.**

Independent of the foregoing clear error, the Board should review and remand the issuance of FutureGen's permits based on the other two standards of review. Respondents devote little discussion to these two important standards of review. Petitioners discussed in detail above Respondents' failure to meaningfully address these two standards.

Identification of gas, oil and water wells involves both an important policy issue and, to some extent, a matter of discretion in relying solely on an outdated and an inaccurate state database. Respondents concede that this issue involves USEPA's discretion (*FutureGen Resp.*, p. 19; *USEPA Resp.*, p. 19). As shown in the Petitions and above, USEPA failed to utilize considered judgment in reaching its decision to issue the permits. Further, the identification of "all" gas, oil, and water wells in the AoR is an important policy matter, particularly for a first-of-its-kind project and permits. Finally, with respect to the standards, well identification is not a scientific issue subject to deference.

**G. Respondents' Contentions Regarding the Critchelow Well are Misplaced.**

Respondents' argue that the Board should disregard Petitioners' argument and evidence regarding the Critchelow well (*FutureGen Resp.*, pp. 20-22; *USEPA Resp.*, p. 24). Their arguments should be rejected for several reasons.

First, USEPA's investigation of the Critchelow well (and other local wells) was too meager to satisfy SDWA regulations. Respondents make the flawed argument that USEPA can presume that wells such as the Critchelow's well are not deep enough to present a contamination problem (*FutureGen Resp.*, pp. 20-21). If that exception were validated, it would swallow the rule. All permit applicants could then make a variety of assumptions instead of following USEPA's internal guidance document regarding well identification. Meager investigation and assumptions about numerous unidentified wells do not satisfy the SDWA regulations, particularly for the Petitioners' wells that are located close to the injection site (See AR#497, Ex. 1, p. 4).

Second, contrary to FutureGen's argument, it cannot be an affirmative obligation for a member of the general public, *i.e.*, William and Sharon Critchelow, to provide expensive, scientific evidence in support of their plain observation that their water well was adversely affected by the drilling of FutureGen's test well.<sup>9</sup> Respondents point to no authority in support of their contention. Additionally, as a matter of fundamental justice, members of the public cannot be required to conduct expensive scientific testing to seek revisions to a permit issuance. The requirement that Respondents urge would violate due process under the Fifth Amendment. *In re Lucre, Inc.*, 434 B.R. at 833.

Third, William Critchelow's declaration stands factually uncontested, and it also stands to reason. FutureGen's test well penetrated the water table, which connects the test well and the Critchelow well. While FutureGen claims that it monitored other water wells, they make no claim that any of those wells were close to the Critchelow well, or even in its direction (*FutureGen Resp.*, p. 21). FutureGen's argument that the test well drilling was not under USEPA

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<sup>9</sup> William Critchelow contemporaneously informed a supervisor at the test well site of the problem with his well. This fact was not included in his declaration because there was no legal requirement that he register his complaint with FutureGen at that time.

or Board's jurisdiction (*id.* at 21) ignores USEPA's obligation under the SDWA and its regulations to ensure that underground drinking water sources are protected. *See In the Matter of Osage (Pawhuska, Oklahoma)*, 4 E.A.D. 395, 403 (EAB 1992).

FutureGen's argument that it was unable to provide advance notice of the drilling fails. FutureGen easily could have contacted the Critchelows, and provided notice and opportunity for monitoring. The injection site area is far from urban. FutureGen's argument is unsupported by authority. Under the regulations, USEPA should be required to investigate the contamination of this well and require the proper remedial and preventative action.

**V. Respondents' Contentions Regarding SDWA Financial Requirements Fall Short.**

Respondents argue that financial assurances for the permits do not constitute clear error (*FutureGen Resp.*, pp. 22-29; *USEPA Resp.*, pp. 25-37). Review and remand is required under both the matter of discretion and important policy standards. FutureGen concedes that USEPA has discretion to negotiate financial assurances (*FutureGen Resp.*, 22), but does not discuss why the discretion does not require Board review.

USEPA's response mentions the clearly erroneous standard four times (pp. 34 (twice), 35 and 37), but likewise fails to address the matter of discretion and important policy matter standards. Respondents' failure to substantively address those standards concedes them. *See Steen v. Myers*, 486 F.3d 1017, 1020 (7th Cir.2007); *see Augustus v. McHugh*, 870 F. Supp. 2d 167, 172 (D.D.C. 2012). Further, this is not a scientific issue subject to deference.

**A. Respondents Wrongly Contend that a Trust Fund Alone is Proper.**

Respondents argue that they were entitled to use a trust fund to provide financial assurances (*USEPA Resp.*, p. 26-27; *FutureGen Resp.*, pp. 23-24). Additionally, USEPA argues that "Petitioners do not provide any legal basis" authorizing it to reject a mechanism available

under the regulations where mechanism covers the emergency and remedial responses (“E&RR”) cost (*USEPA Resp.*, p. 26).

There are six independent reasons why the Board should reject Respondents’ arguments. First, their arguments misstate Petitioners’ position. Petitioners did not argue that more than a trust fund is required for *every* Class VI permit or that a trust is an improper vehicle. Rather, Petitioners argued that more than a trust is needed *in this case* due to deficiencies in the trust the USEPA approved for first-of-its-kind permits for a risky project.

Second, USEPA fails to explain why it acted contrary to its guidance document regarding financial assurances. *See* USEPA’s Financial Responsibility Guidance (AR#438, pp. 21-22, recommending insurance for E&RR). USEPA concedes that FutureGen’s proposed insurance in its application failed to satisfy the SDWA guidelines (*USEPA Resp.*, p. 33). FutureGen states that it tried to use an insurance policy to satisfy E&RR (*FutureGen Resp.*, p. 23; AR#1, Section 9.4.2.2 and Appen. D). FutureGen’s failed insurance, however, does not justify a hastily assembled trust (AR#316). Moreover, FutureGen’s statement that it merely “initially investigated” the use of insurance is brazenly dishonest (*FutureGen Resp.*, p. 23) and contradicted by USEPA’s statement that FutureGen’s original application proposed insurance only (*USEPA Resp.*, p. 31).

Third, Respondents fail to point to evidence in the record supporting USEPA’s deviation from its internal guidance document. The Board’s rulings require that USEPA’s permit issuance be support by the record. *In re: Stonehaven Energy Mgmt, LLC*, 2013 WL 1308715, slip op. at 18. USEPA’s attempt to explain the rejection of the insurance policy was skeletal. (AR#511, p. 125, Comment 4.13). FutureGen makes no detailed argument that USEPA adequately explained or supported its decision in the record.

The record shows that a trust fund alone is insufficient for these permits. A trust alone does not account for the project's risks and E&RR costs. It is undisputed that FutureGen could not obtain insurance for the project beyond the initial drilling and construction phase (*USEPA Resp.*, p. 31; AR#249, AR#250, AR#267, AR#269, AR#271, AR#295). This underscores the risky nature of FutureGen's project, and indicts Respondents' reliance solely on a trust fund to cover E&RR. The guidance speaks directly to this point in preferring insurance for E&RR because of the potential for that cost to be extraordinarily high (AR#438, pp. 21-22). This issue intertwines with the issue regarding the amount of funding required.

Fourth, contrary to Respondents' contention, the Petitions provide legal authority. Petitioners cite to SDWA regulations and the USEPA guidance (*Petitions*, pp. 22-24). Fifth, the insurance and trust fund issue involves both a discretionary matter and an important policy matter that the Board should review. Respondents cite no Board rulings indicating otherwise.

Finally, USEPA asserts that FutureGen "consists of several large organizations" (*USEPA Resp.*, p. 33). This assertion is unsupported in the record and unsupportable. Importantly, it overlooks that those organizations are not owners of FutureGen (a 501(c)(3) organization) and therefore are not liable for FutureGen's liability. Respondents fail to point to any evidence in the record even remotely suggesting otherwise. The Board should reject this argument.

**B. Respondents' Contention regarding Adequate Funding for E&RR is Misplaced.**

Respondents argue that \$26.7 million is the proper amount for E&RR (*USEPA Resp.*, pp. 27-30; *FutureGen Resp.*, pp. 24-26). USEPA states that the "hydraulic barrier" cost is "almost \$13 million" and the "pump and treat" cost is "\$14.4 million" (*USEPA Resp.*, p. 29). USEPA asserts that this amount is proper, despite being less than its own "cost tool." Respondents' arguments fail for at least four, independent reasons.

First, USEPA fails to properly explain in the record the basis for its conclusion and how \$26.7 million is “conservative” when it is approximately \$50 million below its own high range estimate (*USEPA Resp.*, pp. 29-30). USEPA was required to explain, but failed to do so. *See In re: Town of Concord*, NPDES Appeal No. 13-08, pp. 14 and 27.

Second, USEPA must properly support its ruling with credible evidence in the record. *In re: Stonehaven Energy Mgmt, LLC*, 2013 WL 1308715, slip op. at 18. USEPA admits that in utilizing its “cost tool” it relied exclusively on information from FutureGen.<sup>10</sup> (*USEPA Resp.*, p. 28). This includes “costs from third parties” (Patrick Engineering) regarding financial assurances (*USEPA Resp.*, p. 28). USEPA does not explain why it relied on Patrick Engineering’s E&RR cost estimate information for its “cost tool”, but rejected the same information for being outdated, unreliable and too low (AR#320; AR#497, pp. 12-13; AR#511, p. 114, Comment 4.8). This violates the SDWA regulations. 40 C.F.R. §146.85(c)(1); (AR#329). USEPA failed to explain in the record this discrepancy.

Additionally, USEPA’s “cost tool” is defective because it relied on the estimated size of the CO<sub>2</sub> plume, which is materially understated (*Petitions*, pp. 10-13). Further, the E&RR coverage is insufficient in light of FutureGen’s insurance broker stating that a pollution liability policy (used primarily for E&RR) for a project this size should have a limit between \$50 and \$100 million (AR#1, Appen. D, p. D.4 and D.9).

Third, to satisfy the SDWA regulations, the funding must be sufficient to protect underground drinking water sources. 40 C.F.R. § 146.85; *see NE Hub Partners, L.P.*, 7 E.A.D. 561, 567 (E.A.B. 1997). A truly conservative figure is needed for this risky, first-of-its-kind project and would be at the high end of USEPA’s range of E&RR costs.

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<sup>10</sup> None of the information was dated beyond February 7, 2014. (AR#320, p. 2).

Fourth, even if it were not clear error, this issue involves both an important policy matter and a matter of discretion. The risky first-of-its-kind nature of the project and permits independently require the Board's review and remand.

The Board should reject Respondents' argument that revisions to financial assurances can be made as the project goes along (*USEPA Resp.*, p. 30; *FutureGen Resp.*, p. 26). Their argument is a tacit acknowledgement of the weakness of their other arguments and is an attempt to shift the focus from the *required* initial compliance with SDWA regulations. This is Respondents' only substantive response to Petitioners' argument that the E&RR amount is insufficient in light of the risky, first-of-its-kind nature of the project, as well as the dangerous properties of CO<sub>2</sub>.

USEPA asserts that Petitioners failed to cite legal authority for their argument that the high-end of the E&RR cost range should be used (*USEPA Resp.*, p. 30). While there is no Board precedent for these first-of-its-kind Class VI permits, Petitioners cited the record and SDWA regulations in discussing various, related financial assurance issues (*Petitions*, pp. 22-25). Petitioners also discussed in the *Petitions* the USEPA's overarching failure to properly explain and support its permit issuance.

**C. Respondents' Contention that the Permits Need Not Contain Detailed Written Cost Estimates Misses the Mark.**

FutureGen claims it satisfied the SDWA regulation requiring "a detailed written estimate" because the permits were not required to contain the estimate (*FutureGen Resp.*, pp. 26-27). FutureGen's argument is brief and cites no decisional authority. USEPA makes little argument regarding this issue, which further undercuts FutureGen's argument (*USEPA Resp.*, p. 27).

The regulation required *FutureGen* to have "a detailed written estimate" before any permit could be issued. 40 C.F.R. § 146.85(c); (AR #329). USEPA could not rely on Patrick



Engineering's estimate to satisfy the regulation because Patrick Engineering's information was outdated and inaccurate, which was the basis for USEPA's rejection of that information (AR#511, p. 114, Comment 4.8; *Petitions*, pp. 25-26). That was the *only* "written estimate" that could have served as a basis for satisfying the regulation. Respondents do not argue otherwise.

FutureGen's position is that any estimate suffices regardless of accuracy or meaningfulness. FutureGen ignores SDWA regulations in spirit and letter. An estimate cannot satisfy SDWA regulations where USEPA found the estimate lacked credibility. If otherwise, it would improperly elevate form over substance. *See Bridge v. Ocwen Fed. Bank, FSB*, 681 F.3d 355, 359 (6th Cir. 2012) (stating that it would defeat the purpose of a federal statute and elevate form over substance if the statute could be interpreted to weave a "technical loophole" into the statute). The regulations require that the estimate be credible and reliable. Nor can the estimate be USEPA's *own* cost estimate based on FutureGen's faulty information. The regulations require the "owner or operator" (*viz.*, FutureGen) to have the estimate, and FutureGen and USEPA are not interchangeable.

#### **VI. The EAB Should Fully Consider the Petitions and Petitioners Expert Report, as Filed.**

FutureGen's two misplaced arguments at the end of its response merit only brief discussion (*FutureGen Resp.* pp. 30-33). First, FutureGen incorrectly asserts that Petitioners' arguments were a mere "resuscitation" of their public comments (*FutureGen Resp.* pp. 30-32). To the contrary, Petitioners addressed USEPA's comments and showed their insufficiency (*Passim, Petitions*). In fact, Petitioners addressed the comments at length with 30 citations to USEPA's comments (*Petitions*, pp. 10-12, 14-17, 20-21, and 23-29 and Ex 1). The issue overlap between the public comments and appeal issues is expected and normal due to the requirement that appeal issues must have been raised in public comments (See 40 C.F.R. § 124.19(a)). As

most recently stated by this Board, Petitioners are required “to demonstrate that each issue was raised during the public comment period” (See EAB Order Denying FutureGen Motion for Leave to File Surreply, p. 2, citing 40 C.F.R. 124.19(a)(4)(ii)). Tellingly, USEPA did not make this argument.

Second, FutureGen’s argument that the Board should not consider the Supplemental Report of Dr. Schnaar, Ph.D. has no legal basis or support (*FutureGen Resp.* pp. 32-33). The Supplemental Report is attached as an exhibit to the Petitions and specifically incorporated therein. Its incorporation into the Petitions alone makes it proper for consideration. USEPA makes an erroneous page limit argument in a footnote (*USEPA Resp.* p. 8, fn. 4), which has no basis.<sup>11</sup> The Board should reject FutureGen’s contention because Board precedent clearly considers such reports and the Board’s Practice Manual actually instructs parties to include technical reports.

The Board held in *In re Guam Water Works Authority* that it will consider documents presented on appeal where the purpose is to respond to USEPA’s response to comments:

Although a document is not part of the administrative record, the Board may nonetheless consider it. The Board has on numerous occasions, considered, in examining a case, documents presented on appeal that were not part of the administrative record. This is particularly true in cases where, as here, a petitioner submits such documents as support for its arguments on appeal and where the appeal process is the logical and/or first opportunity to present such documentation. ... Further, it appears that the purpose of the declarations is to respond to the Region’s response to comments. On balance, it appears that the appeal process is the logical place for these declarations to have emerged. Therefore, the Board declines to deny consideration of these declarations.

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<sup>11</sup> USEPA’s assertion that Petitioners attached Dr. Schnaar’s report as an exhibit to avoid the Board’s length limitations is unfounded (*USEPA Resp.* FN 4, p. 8). Petitioners correctly reported that their Petitions contained 8,987 words (*Petitions*, p. 31). Dr. Schnaar’s report, incorporated by reference, contains 4570 words – for a total word count of 13,557, below the 14,000 word limit (40 C.F.R. 124.19(d)(3)).

*In re Guam Water Works Auth.*, NPDES Appeal Nos. 09-15 & 09-16, slip op. at 26 (Nov. 16, 2011), 15 E.A.D. \_\_\_ (emphasis added) (citing two other Board rulings). The situation here falls squarely under the Board's *In re Guam* reasoning. Petitioners responded to the USEPA's responses to their public comments and utilized an expert witness in connection with scientific and technical issues. It was Petitioners' first opportunity to provide this information because the USEPA's responses to public comments were issued concurrently with the issuance of the permits.

Petitioners' expert will be helpful to the Board. He is an expert in the geologic sequestration of carbon dioxide (CO<sub>2</sub>), helped develop the regulations for the USEPA's geologic sequestration Class VI rulemaking, and was an expert technical contractor to USEPA for development of several technical guidance documents regarding geologic sequestration projects, including the *Area of Review Evaluation and Corrective Action Guidance* (AR#439) and the *Well Testing and Monitoring Guidance* (AR#441; *Petitions*, Ex.1, pp. 1-2).

Moreover, the Board, in its *Practice Manual*, states that it *expects* a petitioner to provide it with technical reports. The *Manual* expressly provides:

For permit challenges based on technical issues, the Board expects a petitioner to present 'references to studies, reports or other materials that provide relevant, detailed, and specific facts and data about permitting matters that were not adequately considered by a permit issuer.

*Practice Manual*, p. 45-46 (quoting *In re City of Attleboro*, NPDES Appeal No. 08-08, slip. Op. at 32 (Sept. 15, 2009), 14 E.A.D. \_\_\_). The Supplemental Report does exactly as the Board's *Practice Manual* specifies. It would be inconsistent with its own directions and against its own

precedent for the Board to accept FutureGen's unfounded argument regarding the Supplemental Report.<sup>12</sup>

### CONCLUSION

The Board should review and remand these first-of-its-kind permits for further proceedings as set forth herein and in the *Petitions*.

### STATEMENT OF COMPLIANCE WITH WORD LIMITATION

In connection with 40 C.F.R. § 124.19(d)(3), and pursuant to the Board's order dated November 12, 2014, Petitioners state that this reply brief contains 9,960 words, which does not exceed the 10,000 word limit set by the Board.

Dated: December 4, 2014

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<sup>12</sup> Likely due to the lack of any legal support for their positions, Respondents have not moved to strike the Supplemental Report. A motion to strike is the proper mechanism for excluding material from consideration. In any event, Petitioners are prepared to immediately file a motion to supplement the record if the Board indicates that it would be appropriate.

**CERTIFICATE OF SERVICE**

I hereby certify that, in the matter of FutureGen Industrial Alliance, Inc., Permit Nos. IL-137-6A-001, IL-137-6A-002, IL-137-6A-003; and IL-137-6A-004, Appeal Nos. 14-68, 14-69, 14-70, and 14-71, I filed the original of the foregoing Petitioners' Consolidated Reply in Support of their Petition for Review electronically with the Environmental Appeals Board on December 4, 2014.

I also certify that on December 4, 2014, I delivered a copy of the foregoing Petitioners' Consolidated Reply in Support of their Petition for Review by electronic mail and regular mail to:

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