United States
Environmental Protection
Agency

Underground Injection Control (UIC) Class VI Program

Public Comments Received on the Draft *Underground Injection Control (UIC) Class VI Program Financial Responsibility Guidance*

July 2011

Disclaimer

Personal information (i.e. phone numbers and email addresses) has been removed from email correspondence.

Office of Water (4606M)
EPA 816-R-11-006
July 2011
http://water.epa.gov/drink/

The deadline for comments is listed as January 9, which is a Sunday.
Are comments due by then or by COB, Monday, January 10?

Thank you,
Karen

Karen R. Obenshain, Sc.D.
Director, Fuels, Technology & Commercial Policy Edison Electric Institute
701 Pennsylvania Avenue, N.W.
Washington, DC 20004-2696

Since the owner or operator must annually provide an adjustment for inflation to the Director within 60 days prior to the anniversary date of the establishment of the instrument, we recommend that EPA establish the appropriate inflation factor to use for this purpose. There are several inflation factors in existence, and the appropriate one to use should be designated.

We appreciate the opporunity to comment.

Mike,

Michael H. Cochran, Licensed Geologist
Chief, Geology Section
Kansas Department of Health & Environment
1000 SW Jackson Street, Suite 420
Topeka, KS 66612-1367

Request for Extension to March 10, 2011 of Comment Period and for a Meeting on the Draft Geologic Sequestration Financial

The sixteen organizations identified in the attached letter respectfully request an extension from January 9, 2011 to March 10, 2011 of the comment period on the draft guidance "Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance" (EPA
816-D-10-010) that was released for comment on December 14, 2010. The requested extension will allow a total of ninety (90) days for comment on this very important 121-page guidance document and the accompanying 99-page document entitled: "Research and Analysis Supporting Financial Responsibility Requirements and Guidance" which was released at the same time. We also request meetings with appropriate members of your staff and Class VI rule development team to allow us to gain a fuller understanding of the draft guidance, the underlying policies, and its place within the implementation process. We suggest that a meeting could take place during the week of January 24, 2011.

Best Regards,
Bob

Robert F. Van Voorhees, Manager
Carbon Sequestration Council
1155 F Street, N.W.
Washington, D.C. 20004

January 6, 2011

Cynthia C. Dougherty
Director
Office of Ground Water and Drinking Water
U. S. Environmental Protection Agency
1200 Pennsylvania Ave., NW.
Washington, DC 20460

Re: **Draft Geologic Sequestration Financial Responsibility Guidance:**
Request for Extension to March 10, 2011 of Comment Period and for a Meeting

Dear Director Dougherty:

The organizations identified by the signatures at the end of this letter request an extension from January 9, 2011 to March 10, 2011 of the comment period on the draft guidance "Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance" (EPA 816-D-10-010) that was released for comment on December 14, 2010. The requested extension will allow a total of ninety (90) days for comment on this very important 121-page guidance document and the accompanying 99-page document entitled: "Research and Analysis Supporting Financial Responsibility Requirements and Guidance" which was released at the same time. We also request meetings with appropriate members of your staff and Class VI rule development team to allow us to gain a fuller understanding of the draft guidance, the underlying policies, and its place within the implementation process. We suggest that a meeting could take place during the week of January 24, 2011.

We commend your performance in meeting the timetable you set for promulgation of the Class VI geologic sequestration (GS) rule and for notable improvements made in response to public comments. We are working diligently to understand all of the revisions made as well as recommendations that were not accepted. This means thoroughly reviewing the final rule, the published preamble and thousands of pages of responses to the comments that were filed. As evidenced by the training sessions that your office has scheduled for UIC program officials and the webinars contemplated for future presentation, there is a lot to understand about this rule and the steps that will be required for applicants, operators and UIC officials to comply with its requirements.

The release of the draft Financial Responsibility Guidance comes at a time when all affected persons are seeking to understand the requirements of the Class VI program, fulfilling yearend responsibilities within their various organizations, and celebrating the Christmas and other holidays season. This draft guidance is a very detailed document addressing serious financial obligations for potential permittees, and understanding implications of the requirements will involve consultation with financial experts within or outside our various organizations who will need to be briefed on the requirements and implications of the new Class VI program requirements once we have been able to digest those.

To facilitate the process of both reviewing the final GS rule and accompanying documentation and providing meaningful comments on the draft guidance, we request and would appreciate both an extension of the comment deadline on the draft Financial Responsibility Guidance and an opportunity to meet with appropriate members of your staff and team to make sure we have a full and complete understanding of the substance and role of the draft guidance. We suggest that it might be convenient to meet in conjunction with the Ground Water Protection Council (GWPC) Underground Injection Control (UIC) Meeting in Austin, Texas January 24-26, 2011, because we understand that many members of your team will be attending that meeting to conduct a training session on the new Class VI program for state and regional UIC program officials. We assume that the draft Financial Responsibility Guidance may be discussed in that session which is not open to members of the public. Accordingly, this appears to be a convenient time to meet with us as well.

Some of us will not be at the GWPC meeting in Austin and would appreciate an opportunity to meet with members of your team in Washington, D.C. at a mutually convenient time.

We thank you in advance for consideration of this request. Please contact Bob Van Voorhees at [redacted] to respond and coordinate arrangements for meetings.

Sincerely,

John McManus
Vice President, Environmental Services
American Electric Power

Kyle Isakower
Director, of Policy Analysis
American Petroleum Institute

D. Brian Williams
Director, CCS Technology
BP Alternative Energy North America Inc.

Frederick R. Eames
Partner, Hunton & Williams LLP
for CCS Alliance

Robert F. Van Voorhees
Manager
Carbon Sequestration Council

Sarah A. Edman
Manager, CCS Policy and Project Development
ConocoPhillips

Ronald T. Evans
President and Chief Operating Officer
Denbury Resources Inc.

Darlene Radcliffe
Director, Environmental Technology & Fuel Policy
Duke Energy

William L. Fang
Deputy General Counsel
Edison Electric Institute

Scott Anderson
Senior Policy Advisor, Energy Program
Environmental Defense Fund

Tiffany Rau
Policy & Communications Manager
Hydrogen Energy California LLC

George Peridas
Scientist Climate Center
Natural Resources Defense Council

Al Collins
Senior Director, Regulatory Affairs
Occidental Petroleum Corporation

Karen C. Bennett
Vice President of Environmental Affairs
National Mining Association

Kenneth Loch
Manager CO2 & CCS, Upstream Americas
Shell Exploration & Production Company

Karl Moor/cw

Karl R. Moor
Vice President and Associate General Counsel
Southern Company

John V. Corra

John V. Corra
Director
Wyoming Department of Environmental Quality

cc: Ann Codrington
Bruce Kobelski
Suzanne Kelly
Lee Whitehurst

RE: Oregon Department of Geology and Mineral Industries comments: EPA – Underground Injection Control (UIC) Class VI Program – Financial Responsibility Guidance – December 2010 – DRAFT document.

DOGAMI remains in support of the adoption of these rules and is eager to develop partnerships with Oregon – DEQ in areas where the permitting and review process could be streamlined. To initiate this partnership DOGAMI would first need direction to be given by our Governing Board.

DOGAMI has include comments to the Financial Responsibility Guidance Document below.

Security instruments discussions starting on page 13. DOGAMI also requires a security instruments prior to issuing mining, oil & gas and geothermal permits. DOGAMI accepts Performance Bonds, Letters of Credit, Assignment of Deposit and a Cash deposit. DOGAMI has found that performance bonds are becoming difficult to obtain and has received several bond cancellation notices. Additionally, DOGAMI has had to limit the maximum amount we could accept (not more than $15,000) for Cash deposit and Assignment of Deposit security instruments because they remain subject to bankruptcy proceedings. It has been DOGAMI's experience that obtaining and maintain an adequate security is becoming increasingly difficult. DOGAMI is investigating the creation of a bond pool to maintain an adequate security to address this issue. Perhaps there is a similar option. That said I am interested in the other security instrument options out lined in this document that I do not know a lot about. My first questions would be are they subject to bankruptcy proceedings? And how are they maintained and cancelled.

Best,
Bob Houston
Oregon Department of Geology and Mineral Industries

Comments on FA Guidance

John V. Corra, Director
Wyoming Department of Environmental Quality

February 7, 2011

US EPA
Office of Ground Water and Drinking Water
Washington, D.C.

RE: Comments for consideration on US EPA's Draft *UIC Class VI Program: Financial Responsibility Guidance (December 2010)*

Dear Sir/Madam:

The Wyoming Department of Environmental Quality has reviewed US EPA's draft guidance *(UIC Class VI Program: Financial Responsibility Guidance, December 2010)* and offers the following comments for your review and consideration:

Definitions

The guidance document rightly refers to the need for owners or operators to demonstrate and maintain financial responsibility for resources, corrective action, injection well plugging, post-injection site care and site closure, and emergency and remedial response. However, additional clarification is needed that there may be times when there are both a responsible owner and operator involved. In this instance, specificity of each party's financial assurance responsibility is even more important so as to ensure that there are no gaps in risk coverage and to ensure clear recourse to the responsible party in the event financial assurance is called upon for relief.

Site Specific Considerations and the Importance of the Permitting Phase

The importance of good site selection, clear identification of the area of review and analysis during the permitting phase cannot be overemphasized. The appendices to the report identify key site characteristics such as size of plume, geology, baseline geochemistry, number of existing wells, etc. That said, the importance of good site selection and the role of site selection in the permitting process should be further emphasized in the body of the main report. We believe good site selection and thorough review of site characteristics in the permitting process have significant bearing on the potential mitigation or reclamation costs of a carbon dioxide sequestration project. Site selection and an assessment of risk during the permitting phase is of critical importance in reducing and estimating risk and in identifying suitable financial assurance methods and instruments specific to the site, the phase of the project or the specific risk mitigation activity to be addressed.

Acceptable Financial Assurance Instruments

The guidance document properly identifies a full suite of financial assurance instruments which may be utilized and does a good job of highlighting that multiple financial assurance instruments may be combined in certain circumstances. However, the body of the main report fails to emphasize the importance of distinguishing that not all financial assurance instruments are appropriate for all types of risk, for each phase of a project or in combination with one another.

There is a footnote in the appendices referencing that self-insurance is not advised in the post-injection site care phase. This should be highlighted in the body of the report as an example of a mismatch in risk attributes and financial assurance. The provision stating that corporate guarantee and financial tests are appropriate in the post-injection site care and closure period infers that self-insurance is acceptable at this phase of the project. We would advise against self-insurance in this phase of the project, unless combined with additional financial assurance instruments. More emphasis is needed on the fact that operators or owners have little incentive to meet any remedial needs after the operation has ceased and therefore self-insurance is far less appropriate than bonding or an established trust for these types of activities.

Additionally, while number of wells and well characteristics are an appropriate metric for bond calculations for well-plugging and many operational activities, third party or self-insurance for unlikely but sizable risk events are more likely to be based on damage estimates rather than number of wells.

Lastly, additional emphasis should be placed on the fact that financial assurance duration periods may be considerably lower than the period of time for which financial assurance is required. A 50-year post-closure care period will by definition exclude the use of short-term letters of credit or insurance

Distinction between Enhanced Oil Recovery versus Permanent Geologic Sequestration Projects

While it may be outside the purview of EPA or the States to regulate, it is worth mention that the process for measurement of CO_2 permanently sequestered will differ for EOR versus permanent sequestration. A price or cap on CO_2 emissions is likely to create contractual obligations for sequestration activities.

Trust Funds

The use of trust funds is identified as a potential financial assurance instrument but issues such as the collection method, cost estimates, site specific costing, and the trustee administration have not been addressed. Wyoming, in its 2008 report to the legislature, identified the possibility of the creation of a privately-funded, publicly controlled trust fund set up for the purpose of addressing long-term costs and liabilities post-closure. Collection of funds would be anticipated during the permitting and operating phases of the project. The trust fund was necessitated by the lack of availability or appropriateness of other traditional financial assurance instruments (e.g. LCS, self-insurance, bonding).

Wyoming envisioned a Trust Fund that would provide for corrective actions and delimited compensatory damages resulting after release or insolvency of the permittee/operator/corporate guarantor, and after the bond or insurance products are released, exhausted or terminated. Some trusts are established as a "revolving fund" with a minimum and maximum balance, which can be replenished as required after an event which causes expenditures from the fund. Flexibility in the fee structure is encouraged based on experience and site specific risk information. Multiple funds or accounts are also possible to provide separate and distinct funding sources for different activities such as ongoing measurement, monitoring and verification costs or unpredictable and infrequent events which require corrective action.

Wyoming identified the following risks to regulator and permittee/operator which should be considered in the creation of a Trust Fund for geologic sequestration: (1) the account would be subject to the biennial appropriation process so there may be insufficient money available depending on the appropriation, (2) cost computations uncertainties and/or irregularities which may result in insufficiency of funds for the work that would be needed, (3) inability to access funds depending upon trustee and governance structure, (4) potential for competing claims for payment which may reduce sufficiency of fund assets available as financial assurance.

Director Flexibility
We agree with the provisions which offer the Director discretion and flexibility to adjust the care period and support an annual review process. The Director should also have the flexibility to create cost estimates taking into consideration probability of risk and setting an aggregate financial assurance amount that incorporates multiple, related risk elements. The Director should have the ability to adjust financial assurance requirements on an annual basis based on this analysis.

Conclusion of Post-Injection Care Period
The report references the use of a third party contractor to aid in the determination that the post-injection care period requirements have been satisfied and site closure approved. Please provide additional clarification regarding assumption of liability if this decision turns out to be premature.

Availability of Financial Assurance Instruments with Automatic Renewals
The report suggests that the Director require automatic renewal provisions in letters of credit and insurance. Please confirm if financial service firms are amenable to this requirement. The report also suggests that insurance certificates be provided during the permitting phase. Our previous research would indicate the long-term nature of that commitment is not acceptable to banks and insurance providers. Confirmation by credible private sector firms of the availability of financial assurance with the duration and commitment provisions envisioned in the report is advisable.

Reclamation Costs
Language specifying the need for site reclamation as a requirement of the post-injection site care period should be added in the main body of the document. This effort may be led by the states, but is a project component with cost and timeline implications which should be considered by the owner or operator at the outset of the project.

Thank you for the opportunity to review and comment on this draft guidance document. Please do not hesitate to contact me at [redacted] should you wish to discuss further or have any questions.

Sincerely,

John V. Corra

John. V. Corra
Director

JVC/KDF/rm/11-0135

c: Governor Matt Mead
Kevin Frederick, WQD
Laura Ladd, Hewitt Ladd, Inc., PO Box 1461, Wilson, WY 83014

AWWA Comments on CCS Financial Assurance Guidance

Attached you will find comments submitted by AWWA on the Draft Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance. If you have any questions, please do not hesitate to contact me. Thank you.

Cynthia

Cynthia A. Lane, P.E.
Government Affairs Office
American Water Works Association
1300 Eye Street, NW, Suite 701W
Washington, DC20005

American Water Works Association

The Authoritative Resource on Safe Water SM

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February 8, 2011

Drinking Water Protection Division
Office of Groundwater and Drinking Water (OGWDW)
Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460
GSRuleGuidanceComments@epa.gov

RE: Draft Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance

Dear Sir or Madam:

The American Water Works Association (AWWA) is an international, nonprofit, scientific and educational society dedicated to the improvement of drinking water quality and supply. Founded in 1881, the Association is the largest organization of water supply professionals in the world. Our 56,000-plus members represent the full spectrum of the drinking water community: treatment plant operators and managers, environmental advocates, engineers, scientists, academicians, and others who hold a genuine interest in water supply and public health. Our membership includes more than 4,100 water systems that supply roughly 80 percent of the nation's drinking water. AWWA and its member utilities are dedicated to safe water. Regulations to ensure safe water must be developed through a transparent process, be based on good science, and provide meaningful risk reduction in an affordable manner.

AWWA appreciates the opportunity to comment on the Draft Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance that was made available for public comment in December 2010. AWWA is pleased to see that specific details are provided regarding the methods that owner/operators of geologic sequestration projects will have to utilize to demonstrate financial responsibility throughout all project phases. Establishment of a separate instrument for any emergency and/or remedial responses is appropriate as these funds should be held independent of what is needed for standard operation of a geologic sequestration project.

It is extremely important to the drinking water sector that owner/operators maintain adequate insurance in the event there is a leak from one of the geologic sequestration sites. Without this, drinking water providers will have no other financial recourse, other than putting this burden on their public ratepayers, if the water quality of one of their aquifers is degraded due to the operation of a geologic sequestration process. The drinking water providers need to be able to recoup any costs from resultant remedial actions or increased treatment requirements for contaminated ground water or to replace lost capacity. In some cases, water systems may need to install complex and costly treatment to remove contaminants introduced by the geologic sequestration project. In-situ remediation may be required to limit contamination. In other instances, treatment may consist of the addition of more chemicals to facilitate precipitation of the inorganic compounds or the utility may have to backwash membranes more often, resulting in higher energy and other operation and maintenance costs. In the worst case, complete source replacement may be necessary. In any of these cases, the owner/operator of the geologic sequestration project must be required to bear the financial burden and reimburse the drinking water utility/ratepayers for these incurred costs, and they should also be required to continue such payments for as long as the ground water source remains degraded.

It is important that calculations for funding the emergency and remedial response financial instrument also take into account what an owner/operator's total liability would be in addition to the contamination of underground sources of drinking water (USDW). The potential exists for contamination of other ground water aquifers, such as those that are not currently classified as USDWs but are or could be used as drinking water sources, and it is extremely important that the liability requirements are extended to these aquifers. The cost to remediate any degradation can be extremely high. Depending on the scope and location of the degradation, examples of potential costs that might be incurred by a drinking water utility include the installation of advanced water treatment technologies and/or development of alternative water sources. The responsibility for these costs must be assumed by the owner/operator in the event of a failure of the geologic sequestration process.

AWWA agrees with EPA that a trust fund is not an appropriate mechanism for demonstrating financial responsibility for emergency and remedial responses as there is the potential that the trust will not be fully funded when an adverse impact occurs. For all other geologic sequestration activities (corrective action, injection well plugging, post-injection site care and site closure), after the initial pay-in period has ended, owner/operators should be required to pay in any additional amount identified during each five-year review period. This additional pay in is required so that there is not a repeat of the funding stoppage that was experienced with the Superfund program.

The guidance document falls short in the critical area of communication with stakeholders. The guidance should include a requirement that the "director" set up a communications plan to inform the general public and other stakeholders (e.g., water utilities), whenever decisions are made or a change in financial responsibility occurs. The "director" should be tasked with tracking financial institution ratings changes in the course of a project to ensure the financial underpinnings of the geological sequestration project are still sound. Again, the general public and other stakeholders should be informed of these activities and their outcomes. The "director" also should be tasked with tracking court (and out of court) settlements that affect the geological sequestration activities, the terms of which should be communicated to all stakeholders. The above actions would ensure a level of trust and cooperation between the geological sequestration project(s) and the local water utilities and the public.

Additionally, as they are currently written, the definitions in the guidance are more than definitions. Several include goals and objectives, which should be edited out and inserted in the appropriate section of the report. The definitions should be consistent with those already defined in regulation. Terms not defined in regulation, especially financial terminology, should be included in the definitions for the sake of clarity.

While not directly related to this guidance document, AWWA would like to encourage EPA to resolve the issue of long-term liability. EPA's geologic carbon sequestration rule is not able to address financial responsibility of the sequestration site after the formal period of post-injection site care has ended (default of 50 year length). Recognizing that EPA does not have the power to assign responsibility after this period of time has expired, AWWA recommends that EPA work with the appropriate stakeholders to develop legislation that will address the issue of who has to assume financial responsibility of the sequestration site after the site closure requirements have been fulfilled. AWWA anticipates that this legislation would provide for a means by which drinking water utilities could recover any costs incurred as a result of USDW contamination by geologic carbon sequestration activities. Everyone needs to apply the lessons learned from MTBE contamination to prevent unintended consequences from developing with geologic sequestration wells.

In summary, AWWA appreciates the consideration of our concerns and recommendations. If there are any questions, please direct them to Cynthia Lane, AWWA, at (202) 326-6122.

Best regards,

Tom Curtis

Thomas W. Curtis
Deputy Executive Director
AWWA Government Affairs

cc: Peter Silva, EPA/OW
Cynthia Dougherty, EPA/OGWDW

Comments on the Geologic Sequestration Financial Responsibility Guidance and Request for Reconsideration of the Final GS UIC Rule

The Carbon Sequestration Council is pleased to provide the attached comments on the draft "Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance" (EPA 816-D-10-010) that was released for comment on December 14, 2010. Because we are also requesting that EPA revise certain provisions of the final rule to accommodate these comments, we are also filing this as a request for reconsideration of the Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO_2) Geologic Sequestration (GS) Wells; Final Rule, which were promulgated effective on December 24, 2010. 75 Fed. Reg. 77230 to 77303 (December 10, 2010)("the GS UIC rule").

Thank you for the opportunity to comment on this draft Financial Responsibility Guidance.

Respectfully submitted,

Robert F. Van Voorhees, Manager
Carbon Sequestration Council
1155 F Street, N.W.
Washington, D.C. 20004

(See attached file: CSC Comments on the FR Guidance - 7 Feb 2011.pdf) (See attached file: Specific Requested Revisions - CSC FRG comments.pdf) (See attached file: Attachment A - EFAB CCS FR Recommendations March 2010.pdf)(See attached file: Attachment B - Captive Insurance Letter efabcaptiveinsurance - 20 Mar 2007.pdf)(See attached file: Attachment C
- EFAB Commercial Insurance Report Feb 2010.pdf)

THE CARBON SEQUESTRATION COUNCIL
1155 F Street, N.W., Suite 700
Washington, DC 20004-1312

February 7, 2011

Ann M. Codrington, Director
Drinking Water Protection Division
Office of Ground Water and Drinking Water
1200 Pennsylvania Avenue, NW (MC-4607M)
Washington, DC 20460

Comments on the Geologic Sequestration Financial Responsibility Guidance and Request for Reconsideration of the Final GS UIC Rule

Dear Director Codrington:

The Carbon Sequestration Council is pleased to provide these comments on the draft "Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance" (EPA 816-D-10-010) that was released for comment on December 14, 2010. Because we are also requesting that EPA revise certain provisions of the final rule to accommodate these comments, we are also filing this as a request for reconsideration of the Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO2) Geologic Sequestration (GS) Wells; Final Rule, which were promulgated effective on December 24, 2010. 75 Fed. Reg. 77230 to 77303 (December 10, 2010)("the GS UIC rule").

The Carbon Sequestration Council is a multi-industry organization promoting communication around key issues of carbon capture and sequestration (CCS) including policy, funding, and messaging. The Council was formed to facilitate information sharing and coordination to promote policies, legislation and regulatory frameworks that foster the use of anthropogenic carbon dioxide (CO_2) for enhanced oil recovery (EOR) as well as the early use and commercial deployment of CCS as a means of addressing greenhouse gas mitigation. In addition, the Group has worked to open dialogues with other interested stakeholders, including nongovernmental organizations and government officials, to avoid unnecessary conflicts due to failure to communicate and to achieve consensus on regulatory framework issues. Members of the Council include most of the individual companies that have signed the Multi-Stakeholder Discussion (MSD) recommendations for the GS UIC rule and the request for extension of the comment period on the Financial Responsibility Guidance filed on January 6, 2011.

We appreciate the extension of the comment period on the draft Financial Responsibility Guidance that was granted on January 7, 2011 in response to the request from multiple stakeholders. That has provided valuable time to review the document and prepare these comments. We also appreciated the opportunity for members of our Council and others to meet with you and other representatives of your office on January 24, 2011 to gain a better understanding of the draft Financial Responsibility Guidance and some of the specific issues we were able to discuss. That allowed us to prepare better comments.

We strongly support the decision to present the details of specific instruments and the recommended supporting documents and submissions in guidance rather than in the regulatory language of the GS UIC rule. This provides for much greater flexibility and adaptability as more experience is gained with geologic sequestration (GS) projects and as financial instruments and the experience with those instruments evolve.

We commend the Financial Responsibility Guidance for making it absolutely clear that owners or operators can use other qualifying financial instruments or a combination of qualifying instruments to meet the financial assurance requirements of the GS UIC rule – the guidance does a better job of this than either the rule or the preamble. This also allows EPA and underground injection control (UIC) program Directors to respond as necessary and appropriate to the GS project growing experience and to changes in financing. Thus, we commend EPA for including in the financial assurance rule requirements the authorization to use "[a]ny other instrument(s) satisfactory to the Director." 40 CFR §146.85(a)(1)(vii), 75 Fed. Reg. at 77294. This provision is fully supported by the recommendation of Environmental Financial Advisory Board (EFAB), which "encourage[d] the Agency to consider adding a new category of financial assurance to the Class VI program that provides the Agency with the flexibility to approve the "functional equivalent" to the established RCRA financial assurance tests."[1/] We also support the statement in the draft Financial Responsibility Guidance that: "Owners or operators can use other qualifying instruments or a combination of qualifying instruments to demonstrate financial responsibility for a specific phase of the GS project at the Director's discretion under 40 CFR 146.85." Draft Financial Responsibility Guidance at *ii*.

We appreciate and support the clear statement that the Financial Responsibility Guidance "does not impose legally-binding requirements on EPA, states, or the regulated community, and may not apply to a particular situation based upon the circumstances." Draft Financial Responsibility Guidance at *iii*. It is very important that this aspect of a guidance document be fully understood and respected by EPA and UIC program Directors. Otherwise, the flexibility and adaptability benefits of the Financial Responsibility Guidance will be forfeited.

[1/] EFAB, "Financial Assurance for Underground Carbon Sequestration Facilities" at 5 (March 2010) (Attachment A)

Director Discretion - But there are also be a more explicit recognition of the inherent limitations on the discretion of Directors. Neither the rule nor the guidance should be unrestrained in allowing "The Director [to] set additional requirements for the financial responsibility demonstration under 40 CFR 146.85." The draft Financial Responsibility Guidance says, "[f]or example," that "the Director might require more stringent requirements for third-party providers or owners or operators utilizing self-insurance." Draft Financial Responsibility Guidance at 10. But Directors are not given unfettered authority to impose additional requirements. Any requirements imposed should be demonstrably necessary to meet the financial assurance requirements of the rule, and a Director should not be able to impose any additional requirements absent some specific determination of inadequacy. Accordingly, this statement should be deleted. Similarly, the draft Financial Responsibility Guidance should be revised to change the statement on page 13 that "[a]t the Director's discretion, the owner or operator might be required to pass both the financial ratio and bond rating test." Again, the rule does not authorize the Director to exercise unfettered discretion or to increase such requirements on a whim. There must be a solid, demonstrable need to impose any additional requirements. In short, the Director should only be able to impose additional requirements for reasons such as those summarized on page 46 of the draft Financial Responsibility Guidance:

> The Director also has the discretion to reject financial instruments determined to be insufficient if they are:
>
> - Not a qualifying instrument;
> - Not sufficient to cover the required costs (e.g. properly plugging and monitoring wells);
> - Not sufficient to address endangerment of USDWs; and
> - Not sufficiently meeting the required conditions of coverage that facilitate enforceability and prevent gaps in coverage through site closure.

Captive Insurance – We request that the draft Financial Responsibility Guidance be revised to allow the use of captive insurance providers that meet appropriate financial tests as well as independent third party insurers. On March 20, 2007, the EFAB provided this recommendation:

> [W] with respect to captive insurance as a financial assurance tool, the Board recommends that EPA require that:
> (1) If the financially responsible affiliate uses a captive insurance policy to provide financial assurance, that the affiliate either (a) pass the financial test and unconditionally guarantee the obligations of the captive or (b) possess investment grade rating, or
> (2) That the captive entity issuing the insurance policy have a rating of "secure" or better by AM Best or comparable rating agency.

> (3) The rating of the captive must be formally reviewed by the rating agency annually, at a minimum, and the rating report must be furnished to those States where a captive policy is being used for financial assurance. Further, States must be notified within 30-days of a rating change, an outlook change, or a rating being placed under review.[2/]

In its report to EPA, EFAB concluded that insurance policies from captive companies should be equally acceptable and treated the same as policies from independent third party insurers if the captive insurer meets "minimum capitalization requirements". EFAB went on to conclude "that a well-known and respected insurance rating agency, such as AM Best, is in the best position to determine what the minimum capital and surplus level should be for a particular insurer to assure availability of funds for the amount and types of risks being written." Id. at 7.

In its subsequent report and recommendations on commercial insurance, EFAB reiterated this recommendation and encouraged the use of ratings for commercial insurers as well: "The Board previously determined that a captive insurance company which relied on a rating from an independent agency to establish its financial capacity should have a rating of 'Secure' or better. No presenter suggested that there should be a lesser minimum standard for commercial insurers than for captive insurance companies."[3/] Accordingly, we request that EPA revise the last sentence of section 146.85(a)(6)(vii) of the GS UIC rule to read as follows: "This insurance policy must be obtained from an insurer with a rating of 'secure' or better by AM Best or an equivalent rating from a comparable rating agency." We also request that EPA revise the Financial Responsibility Guidance to reflect this change and the acceptability of captive insurance to meet the financial assurance requirements for Class VI wells.

Consistent with this comment, we request that the term "independent third-party instrument" be changed to "qualifying insurance instrument" and that the term "independent third party insurer" be changed to "qualifying insurer" and that conforming changes be made throughout the Financial Responsibility Guidance.

2/ EFAB, "The Use of Captive Insurance as a Financial Assurance Tool in Office of Solid Waste and Emergency Response Programs at 8 (March 2007) (Attachment B). See also, EFAB, "Financial Assurance for Underground Carbon Sequestration Facilities at 2 (March 2010) (Attachment A) ("Consistent with the findings with regard to use of the financial test for financial assurance purposes, the Board found that the use of independent credit analysis (i.e., credit ratings) to be a cost-effective mechanism for demonstrating the financial strength of a captive insurer. It also recommended certain additional measures, such as transparent and rigorous oversight by the licensing agency.")

3/ EFAB, "Financial Assurance: Commercial Insurance as a Financial Assurance Tool at 12 (February 2010) (Attachment C).

Mutual Insurance Pools – Both the rule and the Financial Responsibility Guidance should also allow the use of legally authorized mutual insurance, including industry pools. We believe that the preceding recommended revision to the rule will cover this as well. We further recommend revising the draft Financial Responsibility Guidance as necessary to accommodate this change. Thus, the draft Financial Responsibility Guidance statements about "mutual insurance companies" on page 17 and throughout the Financial Responsibility Guidance must apply to legal industry pools as well as other types of mutual insurance companies.

Insurance Policy - On page 78 of the Financial Responsibility Guidance, a draft Certificate of Insurance is presented and includes a provision that the insurance is non-cancellable except for non payment of premium. There are other indications in the Financial Responsibility Guidance that insurance policies should be cancellable only for nonpayment of the premium. We are concerned that this could be unacceptable for insurers, whether commercial or industry mutual. We can envision other circumstances which an insurer would argue justify cancellation, in the interest of key stakeholders. It seems that other cancellations "for cause" probably need to be allowed. Any such cancellation would require notice to the insured and the Director, would trigger an obligation to replace the cancelled insurance with other insurance or another form of financial security. Insurance policies are typically issued for finite periods and then renewed. Likewise, surety bonds must be renewed periodically, typically every one to three years. Even though this is only guidance, it is difficult to envision any insurer or surety issuing protection with no expiration date and no right of cancellation – e.g., for fraud, violation of underwriting and loss control standards, intentional acts or criminal activity. Without more flexibility on the cancellation conditions, insurance policies and surety bonds may either not be available in many circumstances or available only at unnecessarily higher costs to operators. Neither result is desirable.

Self Insurance – In the final rule and in the draft Financial Responsibility Guidance, EPA has provided itself with too much discretion to affect the self insurance option. At pages 13 and 19 of the draft Financial Responsibility Guidance, EPA states that the self insurance option (financial test) requires that the owner or operator of the Class VI facility meet either a financial ratio test or a bond rating test, but adds that "[a]t the Director's discretion, the owner or operator might be required to pass both the financial ratio and bond rating test." This discretion to require that both tests are met is inconsistent with §146.85(a)(6)(v) of the final GS UIC rule governing the UIC program, and such unfettered discretionary authority adds too much uncertainty to the compliance obligations of owners/operators seeking to utilize this financial assurance option.

Net Working Capital - In the final rule, section 146.85(a)(6)(v) states that for the self-insurance option "the owner or operator must...have a net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost ...." For previous EPA regulations establishing the self insurance option for meeting financial assurance requirements under the UIC program and RCRA EPA has always provided two alternatives. *See, e.g.*, 40 CFR §144.63(f) and 40 CFR §264.143(f). The first alternative required demonstration of net working capital and tangible net worth of at least six times the amount to be covered plus meeting specified financial ratio thresholds. The second alternative required meeting the "six times" tangible net worth criterion and a specified bond rating criterion but not a net working capital requirement. Thus, EPA has always previously provided this second alternative as recognition that the financial health of a company can be demonstrated just as effectively in these distinctly alternative ways. We do not understand why EPA has altered this provision, which effectively subjects Class VI well operators to a more stringent requirement than Class I hazardous waste injection well operators, and we did not find any explanation for a conclusion that the provisions still used elsewhere would not suffice for Class VI wells.

In addition, there are inconsistencies between the regulatory language and the draft EPA Financial Responsibility Guidance for Class VI wells on this issue, suggesting that this change may have been unintended. Notwithstanding the language in the final rule regarding the need to meet both the tangible net worth and net working capital criteria for satisfying the financial test, the model CFO letter in item VI of Appendix B to EPA's draft Financial Responsibility Guidance provides the traditional Alternative II Bond Rating Test as an option – demonstration of sufficient tangible net worth, but no requirement for net working capital. This suggests that it was the Agency's intent to adopt the same test for Class VI wells as it is currently used for Class I hazardous wells. This approach would be more consistent with the recommendation received from the Environmental Financial Advisory Board (EFAB) than the language of the final rule. Accordingly, we think it is necessary to revise §146.85(a)(6)(v) to make it clear that UIC facilities relying on the Alternative II Bond Rating Test do not have to meet the net working capital criterion applicable to UIC facilities using the Alternative I Financial Ratios Test.

EFAB recommended following the Class I hazardous waste requirements but not making them more stringent as the final GS rule has done: "We believe that the RCRA and the SDWA financial assurance requirements for Class I wells rather than Class II wells provide the best model for establishing the requirements for Class VI wells."[4/]

[4/] EFAB GS Well Recommendations at 3 (Attachment A). See also, EPA, Underground Injection Control (UIC) Class VI Program: Research and Analysis in Support of UIC Class VI Program Financial Responsibility Requirements and Guidance at 79 (December 2010): "EPA chose to follow precedents by selecting of self-insurance requirements for Class VI wells sothat they closely follow Class I hazardous waste well requirements. . . . EPA's approach for the selection of

Consistent with this comment, we hereby request and petition that EPA revise 40 CFR §146.85(a)(6)(v) of the GS UIC rule to read as follows:

> (v) An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet the criteria of either paragraph (v)(A) or (v)(B) of this section:
> (A) The owner or operator must have:
> Two of the following three ratios:
> A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and
> Net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost estimate; and Tangible net worth of an amount approved by the Director; and
> Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost estimate.
> (B) The owner or operator must have:
> A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and
> Tangible net worth at least six times the sum of the current well plugging, post injection site care and site closure cost estimate; and
> Tangible net worth of an amount approved by the Director; and
> Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost estimate.

In petitioning for this rule revision, we note that EPA did not provide adequate notice and opportunity to comment on the final §146.85(a)(6)(v) requirement that all Class VI facilities meet both the six times net working capital and six times tangible net worth criteria. In the July 25, 2008 proposed rule for Class VI UIC wells (73 Fed. Reg. at 43492), EPA did not mention this change. Instead, EPA stated on page 43520: "EPA is

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self insurance test requirements is also consistent with the approached recommended by the Environmental Financial Advisory Board (EFAB). When charged with the task of recommending financial assurance mechanisms for the new Class VI wells, EFAB 'recommended use of Class I financial assurance mechanisms [based on their] familiarity with, and belief in, the effectiveness of these mechanisms.'"

proposing that the rule only specify a general duty to obtain financial responsibility acceptable to the Director, and will provide guidance to be developed at a later date that describes recommended types of financial mechanisms that owners or operators can use to meet this requirement." EPA added at page 43521 that "EPA plans to develop guidance that is similar to current UIC financial responsibility guidance for Class II owners and operators." That statement referenced the existing guidance for Class II Oil and Gas-Related Injection Wells, which specifically authorizes the Bond Rating alternative (i.e. the Alternative II Bond Rating Test identified in Appendix B of the December, 2010 Class VI guidance) without any reference to requiring meeting a specified "net working capital" criterion. Thus, the referenced guidance not only gave no indication that EPA was considering adopting a considerably more stringent self insurance test for Class VI facilities, it affirmatively created the impression that the Class VI self insurance requirements would be very similar to that required for Class II and Class I UIC wells."

Comparative Risk Statements - At page 49 of the draft Financial Responsibility Guidance, EPA states its recommendation that the Director not accept self-insurance as a financial responsibility instrument for post-injection site care and closure "because it generally cannot ensure that resources will be available over the long term." This unsupported statement is not defensible because, under the rule, the permittee has a continuing regulatory obligation to provide financial assurance and must substitute one of the other financial assurance instruments set forth in 40 CFR §146.85(a)(1) if the permittee can no longer meet the self insurance option. Furthermore, the owner/operator of a Class VI GS well has a current obligation to provide financial responsibility for projected future costs of post-injection site care and closure so a current determination of a company's ability to meet the financial test for self insurance can be made immediately.

At pages 48 and 49 of the Financial Responsibility Guidance EPA expresses the opinion that self-insurance poses the highest risk to the public. We think this statement exaggerates the risk and may create unnecessary hurdles to utilizing this compliance option. The financial information provided in support of utilizing the self insurance option is based on independently audited information, including publicly available information provided to the Securities and Exchange Commission. EPA does not provide any evidence to support these deprecating statements about self insurance. Accordingly, we request that such statements be deleted from the Financial Responsibility Guidance. Any statements of this type should either be supported by citations to the supporting evidence or by a direct reference to whatever organization has reached that conclusion, along with a contextual summary to qualify the conclusions.

Rankings – Consistent with the foregoing comment, we also request that EPA not use numbers for the listed options in Table 4 on page 25 of the Financial Responsibility

Guidance. This makes it appear that these are rankings of the instruments based on some merits assessment; yet we understand that the items were simply intended to be listed in the order discussed in the document. Rankings should not be provided or even suggested without adequate support for the conclusions.

Corporate Affiliate Guarantees - Consistent with the recommendations of EFAB, EPA should also revise the rule and the draft Financial Responsibility Guidance to provide that a corporate guarantee may be "provided by a corporate parent, sibling corporation, or other firm with a substantial business relationships that does meet the financial test".[5/]

Thank you for the opportunity to comment on this draft Financial Responsibility Guidance. If you have any questions or need any additional information about these comments, please contact Bob Van Voorhees at [redacted] Please also direct the Agency's response to this request for reconsideration to me as well.

Respectfully submitted,

Robert F. Van Voorhees

Robert F. Van Voorhees, Manager
Carbon Sequestration Council

cc: Lisa P. Jackson, Administrator
Peter S. Silva, Assistant Administrator for Water
Cynthia Dougherty, Director, Office of Ground Water and Drinking Water
Joe Tiago, UIC Program, Drinking Water Protection Division
GSRuleGuidanceComments@epa.gov

5/ EFAB GS Well Recommendations at 1 and 3-4 (Attachment A): "Section 144.63(f) of the SDWA regulations limits guarantors that can underwrite a corporate guarantee to parent corporations of the owner/operator. In contrast, under RCRA Subtitle C, corporate guarantees can also be underwritten by a firm with the same parent corporation as the owner/operator or a firm with a 'substantial business relationship' with the owner/operator. We recommend that the Agency extend the acceptance of a party with a 'substantial business relationship' to the guarantee provisions for SDWA."

February 7, 2011

THE CARBON SEQUESTRATION COUNCIL
1155 F Street, N.W., Suite 700
Washington, DC 20004-1312

Specific Requested Revisions

For the reasons explained in the attached "Comments on the Geologic Sequestration Financial Responsibility Guidance and Request for Reconsideration of the Final GS UIC Rule", the Carbon Sequestration Council requests that the following specific revisions be made in the Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO2) Geologic Sequestration (GS) Wells; Final Rule, which were promulgated effective on December 24, 2010. 75 Fed. Reg. 77230 to 77303 (December 10, 2010)("the GS UIC rule") and in the draft "Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance" (EPA 816-D-10-010) that was released for comment on December 14, 2010:

A. Requests for reconsideration and revision of the GS UIC rule:

1. EPA is requested to revise 40 CFR §146.85(a)(6)(v) to read as follows:

   (v) An owner or operator or its guarantor may use self insurance to demonstrate financial responsibility for geologic sequestration projects. In order to satisfy this requirement the owner or operator must meet the criteria of either paragraph (v)(A) or (v)(B) of this section:
   (A) The owner or operator must have:
   Two of the following three ratios:
   A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and
   Net working capital and tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost estimate; and Tangible net worth of an amount approved by the Director; and
   Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost estimate.
   (B) The owner or operator must have:
   A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

Tangible net worth at least six times the sum of the current well plugging, post injection site care and site closure cost estimate; and
Tangible net worth of an amount approved by the Director; and
Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current well plugging, post injection site care and site closure cost estimate.

2. EPA is requested to revise 40 CFR §146.85(a)(6)(vi) to read as follows:

   (vi) An owner or operator who is not able to meet corporate financial test criteria may arrange a corporate guarantee by demonstrating that its corporate parent, sibling corporation, or other firm with a substantial business relationship does meet the financial test requirements on its behalf and provides a guarantee. The guarantor's demonstration that it meets the financial test requirement is insufficient if it does not also guarantee to fulfill the obligations for the owner or operator.

3. EPA is requested to revise the last sentence of 146.85(a)(6)(vii) to read as follows: "This insurance policy must be obtained from an insurer with a rating of 'secure' or better by AM Best or an equivalent rating from a comparable rating agency."

B. Requests and recommendations for revision of the draft Financial Responsibility Guidance:

1. Change the term "independent third party insurer" to "qualifying insurer" throughout the Financial Responsibility Guidance and define "qualifying insurer" to include captive insurers and mutual insurance companies, including industry pools that meet the requirements of an accepted rating service.

2. Likewise, change the term "independent third party insurance" to "qualifying insurance" to make this change consistent throughout the document.

3. Eliminate the "Captive Insurance" box on page 18 of the draft Financial Responsibility Guidance.

4. Delete the sentence on pages 13 and 19 stating: "At the Director's discretion, the owner or operator can be required to pass both the financial ratio and bond rating tests." Similarly, delete the sentence on page 39 stating: "At the Director's discretion, the owner or operator might be required to pass the criteria of both paragraphs."

5. Delete the numbers used for the listed options in Table 4 on page 25. The use of numbers here makes it appear that these are rankings when we understand that the items are simply listed in the order discussed in the document.

6. Delete the statements on page 49 regarding the "risks". Unless the basis for these conclusions is provided or the conclusions are directly attributed to the organization that reached the conclusions, the statements are unjustified.

ENVIRONMENTAL FINANCIAL ADVISORY BOARD

March 31, 2010

Honorable Peter Silva
Assistant Administrator
Office of Water
U.S. Environmental Protection Agency
Washington, DC 20460

Dear Mr. Silva:

The Environmental Financial Advisory Board (EFAB) was asked by the Office of Water to evaluate alternatives for financial assurance for a new class of underground injection wells, designated in the Agency's proposed rule under the Safe Drinking Water Act (SDWA) as Class VI wells, for geologic sequestration of carbon dioxide gas streams. Specifically, we were asked to provide recommendations on guidance for use by State and Regional implementers of Class VI programs. In connection with that charge, the Board was asked to review existing State and federal underground injection control financial assurance regulations and guidance under SDWA, and to evaluate existing SDWA and Resource Conservation and Recovery Act (RCRA) financial assurance programs for potential application to this new class of wells. EFAB is pleased to transmit to you this *Report on Financial Assurance for Underground Carbon Sequestration Facilities*.

After an extensive review of the existing regulations for SDWA wells, in particular Class I and Class II wells, and RCRA facilities, the Board concluded that the RCRA and the SDWA financial assurance requirements for Class I wells rather than SDWA Class II wells provide the best model for establishing financial assurance requirements for new Class VI wells. The financial assurance requirements for Class I wells closely resemble the RCRA regulations. A key consideration for the Board's recommendation is that the Class VI wells will be operated as part of a facility rather than as individual wells, which is more typical for the operation of Class II wells. The Board also recommends that because carbon sequestration technology remains developmental and pilot projects and other facility-level testing is ongoing, the periodic review of operational conditions in the proposed regulations include a review of the scope of obligations covered by financial assurance as wells as the continued viability of the financial assurance instruments being used.

We hope that you will find Board's report constructive and useful. The members of EFAB appreciate the opportunity to advise and assist the Agency on important environmental finance issues, and wish to particularly express our gratitude to Ann Codrington, Joseph Tiago and Bruce Kobelski of the Office of Water for their assistance and cooperation.

If you would like to discuss the report in more detail, we would be happy to meet with you and/or members of your staff at your convenience.

Sincerely,

A. James Barnes
Chair

A. Stanley Meiburg
Designated Federal Official

Enclosure

cc: Bob Perciasepe, Deputy Administrator
Peter S. Silva, Assistant Administrator, Office of Water
Barbara J. Bennett, Chief Financial Officer

Environmental Financial Advisory Board

EFAB

Financial Assurance for Underground Carbon Sequestration Facilities

This report has not been reviewed for approval by the U.S. Environmental Protection Agency; and hence, the views and opinions expressed in the report do not necessarily represent those of the Agency or any other agencies in the Federal Government.

March 2010

Printed on Recycled Paper

FINANCIAL ASSURANCE FOR UNDERGROUND CARBON SEQUESTRATION FACILITIES

I. CHARGE

At the request of the U. S. Environmental Protection Agency (Agency), the Environmental Financial Advisory Board (Board) is examining questions concerning the financial assurance requirements and long-term financial stewardship related to the sequestration of carbon dioxide gas streams[1] through underground injection. In a subsequent directive, the Agency requested that the Board address only financial assurance requirements and defer consideration of long-term financial stewardship. In connection with this request, the Agency asked EFAB to review existing regulations and guidance governing the Underground Injection Control Program issued pursuant to the Safe Drinking Water Act (SDWA), which in large part use the financial assurance instruments and framework in the Resource Conservation and Recovery Act (RCRA) regulations.

EFAB has already spent a considerable amount of time and effort evaluating some of the financial assurance mechanisms under RCRA. The RCRA requirements address closure, post-closure, corrective action and other aspects of the Subtitle C (hazardous waste), Subtitle D (solid waste) and Subtitle I (underground storage tank) programs, with the goal of ensuring that an obligated party has the financial capacity to meet its obligations. Under RCRA, a range of mechanisms are available to regulated entities to meet these requirements including: (1) trust funds; (2) satisfying the corporate financial test; (3) corporate guarantees provided by a corporate parent, sibling corporation, or other firm with a substantial business relationships that does meet the financial test; (4) insurance; (5) letters of credit; and (6) third-party sureties (payment or performance bonds).

A workgroup of the Board classified these instruments into three categories. The first encompasses the financial test and corporate guarantee, both of which rely on the financial viability of the regulated entity or an affiliate. The second category contains three of the four remaining mechanisms, insurance, letters of credit and sureties, which are provided by third parties, resulting in an additional cost to the regulated entity. The final category is a trust fund, usually created by the responsible party.

II. BACKGROUND & CONTEXT

[1] In its proposed rule for geologic sequestration wells, the Agency defined a carbon dioxide stream as "carbon dioxide that has been captured from an emission source (e.g. a power plant), plus incidental associated substances derived from the source materials and the capture process, and any substances added to the stream to enable or improve the injection process. This subpart does not apply to any carbon dioxide stream that meets the definition of a hazardous waste under 40 CFR part 261." *See* Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO2) Geologic Sequestration (GS) Wells, 73 Fed. Reg. 43,491 (2008), proposed 40 CFR § 146.81(d), 73 Fed. Reg. at 43,535.

In a letter dated January 11, 2006, EFAB provided its initial analysis and response concerning the use of the first category, the financial test and corporate guarantee. The Board found that many regulated parties rely on their credit ratings to use the financial test for meeting their financial assurance requirements. Its primary recommendation was that the use of independent credit analysis, i.e. credit ratings, is a cost-effective mechanism for demonstrating financial assurance and should continue to be an alternative for those companies that have investment-grade ratings on their debt. Many of the large public companies that are obligated to provide financial assurance are participants in the debt markets and carry ratings on their bonds.

In a second letter dated March 20, 2007, the Board addressed the question of whether captive insurance companies should be allowed to issue financial assurance policies. Captive insurers are often distinguished by the initial funding and restriction of their coverage to one company. Given that the Board's recommendation addressed both the financial strength of the parent company and the financial strength of the captive insurer, our recommendations are a hybrid between the first and second categories of financial assurance instruments. Consistent with the findings with regard to use of the financial test for financial assurance purposes, the Board found that the use of independent credit analysis (i.e., credit ratings) to be a cost-effective mechanism for demonstrating the financial strength of a captive insurer. It also recommended certain additional measures, such as transparent and rigorous oversight by the licensing agency.

On February 25, 2010, the Board transmitted a letter outlining its findings and recommendations with respect to the use of the first of the third-party instruments, commercial insurance for financial assurance. The Board concluded that in many cases insurance is a viable and valuable mechanism for providing financial assurance. It determined that there should be minimum requirements to evidence the financial strength of an insurer underwriting insurance for environmental financial assurance, but deferred recommending a specific minimum credit rating for third-party providers until it completes its review of other third-party instruments. The Board recognized that the use of insurance for financial assurance purposes is a highly complex area and that the regulators have divergent views on its use. The Board did not recommend the use of standardized policy language, but did suggest that the Agency adopt procedures under which the regulatory authority can specifically agree to limitations contained in the insurance policy or, in the alternative, specifically reject such limitations prior to the time the carrier becomes legally obligated to issue the policy.

In light of the significant change in the financial markets since the first two letters were issued, the question of whether the financial test and captive insurance remain viable alternatives has resurfaced. In addition, the market conditions have raised two additional questions: (1) should regulators evaluate the creditworthiness of the third-party issuers of financial assurance; and (2) should regulators rely on credit-rating agencies to assess financial viability of any entity offering financial assurance?

Despite current market conditions, the Board continues to recommend making the financial test and third-party financial assurance mechanisms available to responsible parties. There are other governmental bodies charged with regulating these markets and it does not make sense for federal or state environmental entities to establish parallel alternative economic criteria for evaluating the financial viability of those entities. Nor does the Board believe that the regulations should be rewritten to presume that the economy is in a perpetual crisis, thus requiring the establishment of costly measures like trust funds. Since financial assurance is a hedge against financial distress of the owner/operator, duplicative or excessive upfront funding of financial responsibilities would not be an appropriate use of economic resources.

While the board continues its work on financial assurance with respect to RCRA, we have begun to examine financial assurance for a proposed new class of wells for the injection of carbon dioxide gas streams in proposed carbon capture and sequestration (CCS) facilities. Toward this end, we have examined the SDWA requirements associated with Class I waste injection wells and Class II oil and gas injections wells in connection with the Agency's proposed rule to regulate carbon dioxide gas stream injection with the creation of Class VI wells under SDWA.[2]

A. DISCUSSION OF CHARGE

We believe that the RCRA and the SDWA financial assurance requirements for Class I wells rather than Class II wells provide the best model for establishing the requirements for Class VI wells. The Class II requirements relate to individual wells, while the Class I requirements apply at a facility-level with multiple wells. The operating paradigm of a CCS facility is a multiple well injection facility, hence the Class I overall approach to financial assurance at a facility level is more appropriate as a working model. However, we do note that there are differences among the programs as outlined below.

The SDWA financial assurance regulations for Class I wells closely resemble the financial assurance requirements under RCRA. Owners/operators are required to establish financial assurance for plugging and abandonment of each existing and new Class I hazardous waste injection wells. The SDWA regulations allow owner/operators to use same six instruments prescribed under RCRA regulations at 40 C.F.R. §264.143(a)-(f) as well additional provisions stipulated at 40 C.F.R. § 144.63(g)-(i).

Notable exceptions between RCRA Subtitle C and the SDWA Class I regulations include:

- Section 144.63(f) of the SDWA regulations limits guarantors that can underwrite a corporate guarantee to parent corporations of the owner/operator. In contrast, under RCRA Subtitle C, corporate guarantees can also be underwritten by a firm with the same parent corporation as the owner/operator or a firm with a 'substantial business relationship' with the owner/operator. We recommend that the Agency extend the acceptance of a party with a "substantial business

[2] *Id.*

relationship" to the guarantee provisions for SDWA.

- SDWA Class I regulations also require owner/operators to notify the EPA Regional Administrator by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, within 10 business days after the commencement of the proceeding. We recommend that his provision be applied to the Class VI wells.

- SDWA Class I regulations also stipulate owner/operators using letter of credits, surety bonds, or insurance policies will be deemed without the required financial assurance in the event of bankruptcy, insolvency, or a suspension or revocation of the license or charter of the issuing institution. The owner/operator is required to obtain alternate financial assurance within 60 days after such an event. However, it is important to note that unlike the RCRA Subtitle C regulations, the SDWA Class I regulations <u>do not</u> extend this provision to include bankruptcy of the trustee or a loss of the issuing institution's authority to act as a trustee. We recommendation that the SDWA Class VI regulations extend the provision to include bankruptcy or loss of authority of the trustee.

The primary difference between the available financial assurance mechanisms under SDWA for purposes of plugging Class I and Class II wells is that commercial insurance is not an allowable instrument for Class II wells. There are also some structural differences between the instruments for Class II wells as compared to Class I wells. In particular, while language is prescribed for letters of credit and sureties for Class I wells, it is not for Class II wells.

Another material distinction between the Class I and Class II well requirements is the significant difference between the requirements of the financial test. The Class I wells requirements closely mirror those of the RCRA. For Class II wells, however, there is no requirement that the financial capacity of the owner/operator be linked to the estimated cost of the plugging and abandonment and the owner/operator only need demonstrate a net worth of $1 million.

B. RECOMMENDATIONS

We are of the opinion that these differences result in weaknesses in the Class II wells requirements if applied at a facility scale, as would be the case for a CCS facility. Therefore, we believe that the Class I instruments be used, which include the use of insurance as well as specific language for the other instruments.

Additionally, because the RCRA financial mechanisms that are largely used in the SDWA Class I program were developed based on hazardous waste facility owner and operator considerations, there may be differences in the owner/operator profiles for proposed carbon sequestration facilities that warrant additional financial assurance mechanisms. For example, it may be appropriate to consider the use of rate-based financing, such as sinking funds, to meet financial assurance requirements. The Board does not have sufficient information about the profile of CCS facility owners and operators to make specific recommendations on this issue, but we encourage the Agency to consider adding a new category of financial assurance to the Class VI program that provides the Agency with the flexibility to approve the "functional equivalent" to the established RCRA financial assurance tests.

The Board notes that the timing and amount of financial assurance must be determined by the Agency based in its evaluation of the risks. During our discussions, a key component of geological sequestration identified to protect drinking water sources is a comprehensive system of monitoring wells during the operation of the facility. The Board was informed that, under current SWDA regulations, decisions on the scope of financial assurance requirements are in large part left to state regulators under delegated programs. Some states require financial assurance for monitoring during operations for certain classes of wells while other states do not. We also note that RCRA does not require financial assurance for monitoring during the operation of the facility. Because the Agency identified two objectives in its summary of the proposed rule for geological sequestration of carbon dioxide, consistency in permitting geological sequestration operations across the United States and prevention of the endangerment of underground sources of drinking water,[3] the Board recommends that the Agency consider the extent to which it has the authority to require financial assurance for monitoring wells before closure of the sequestration facility, in addition to the costs for plugging wells and closing the facility.

As a further consideration, because carbon sequestration technology remains developmental and pilot projects and other facility-level testing is ongoing, the performance levels of such technology and projects cannot be known with a high level of predictability. Additionally, field testing and ongoing operations by their very nature often result in deviations from predicted or modeled studies created during the permitting process. The Board believes that these issues are best addressed in the context of the permitting process, rather than establishing financial assurance requirements that are so costly as to create barriers to the development and deployment of effective carbon sequestration technologies. The proposed Class VI well regulations require periodic review of operational conditions, and the Board believes that these periodic reviews provide an opportunity to revisit, as necessary, the amount of financial assurance required for CCS facilities. This would include financial assurance for corrective action for a prospective remedial scenario (e.g., the cost of installing extraction well(s) at the point of drinking water incursion to extract and treat affected groundwater)[4] during the operational phase of the facility if adverse impacts to drinking water sources are threatened or occur.

A possible answer to the issue of updating financial assurance requirements for a facility is to link the amount of financial assurance required to cost estimates that are updated on a regular basis (e.g., every five years). In order to periodically update estimates for a

[3] *Id.* at 43492.
[4] We recognize that pumping and treating groundwater can be expensive, including treatment for non-hazardous constituents.

large sequestration project, it would be desirable to collect various types of data on a rolling basis. EPA's proposed rule for Class VI wells would require operators to update as necessary various plans relating, among other things, to monitoring, corrective action, well plugging and site closure. If coupled with robust annual reporting requirements that document why updated plans have or have not been necessary, EPA's proposed rules would establish the basis for making adjustments to the required amount of financial assurance. The financial instruments being used could be reviewed at that same time.

III. CONCLUSION

The Board's recommended use of Class I financial assurance mechanisms relates only to our familiarity with, and belief in, the effectiveness of these mechanisms. This recommendation is not intended, and should not be construed, as making any judgment that carbon sequestration facilities are or should be regulated as hazardous waste treatment, storage or disposal facilities under RCRA.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 0 4 2010

OFFICE OF
WATER

Professor A. James Barnes
Chair, Environmental Finance Advisory Board
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue N.W.
Washington, D.C. 20460

Dear Professor Barnes:

Thank you for your letter of March 31, 2010, providing the Environmental Finance Advisory Board (EFAB) recommendations on Financial Assurance for Geologic Sequestration of carbon dioxide. I appreciate the significant time and effort that the Carbon Capture and Storage Workgroup and the EFAB full board spent in conducting their review and preparing their recommendations over the past two years.

We value your suggestions. Your recommendations are informing the Environmental Protection Agency's development of a guidance document entitled "Financial Responsibility for Underground Injection Control Program Class VI Geologic Sequestration Wells."

Again, thank you for your assistance with this important effort. If you have any questions, please contact Cynthia Dougherty, Director of the Office of Ground Water and Drinking Water at (202) 564-3750.

Sincerely,

Peter S. Silva
Assistant Administrator

ENVIRONMENTAL FINANCIAL ADVISORY BOARD

MAR 20 2007

Honorable Stephen L. Johnson, Administrator
United States Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: <u>EFAB Report on the Use of Captive Insurance as Financial Assurance Tool in Office of Solid Waste and Emergency Response Programs</u>

Dear Administrator Johnson:

At the request of the Agency, the Environmental Financial Advisory Board (EFAB) has convened a workgroup to address questions concerning the financial assurance requirements for Office of Solid Waste and Emergency Response (OSWER) programs. These requirements address closure, post-closure, corrective action and other aspects of the Resource Conservation and Recovery Act (RCRA) Subtitle C, D and I programs and also are viewed as guidance with regard to Superfund response action. On January 11, 2006, EFAB submitted to the Agency its initial findings concerning use of the financial test and corporate guarantees. We were pleased to receive on February 21, 2006, a letter from the Assistant Administrator of OSWER thanking EFAB for its work and highlighting elements of our analysis that were of particular assistance. We are grateful for this prompt and substantive response, which we have taken into account in approaching the use of captive insurance for financial assurance.

As we noted in our letter of January 11, 2006, the financial assurance requirements and the issues concerning them are complex and multi-faceted. For this reason, the Board, working with the Agency and other interested stakeholders, is addressing financial assurance mechanisms in discrete and manageable pieces, and focusing sequentially on them. The enclosed report on captive insurance represents a second step in our efforts. We recognize that many of the issues associated with policies issued by captive insurers are also issues posed by commercial insurance. While we acknowledge that there could be benefits in assessing both at the same time, we also found some unique issues associated with captive insurance that warranted a separate review. In fact, we found some commonalities with our earlier analysis of the financial test. In effect, the methods by which a party complies with its financial assurance requirements fall within a continuum of inherent financial capacity to fulfill guaranties by unrelated third parties. We expect that commercial insurance will be the next area of focus. As we complete our review of other aspects of financial assurance, we will apprise you of our responses to the questions posed by the Agency along with our findings.

The Board was charged with addressing three questions regarding captive insurance: (1) Should there be minimum capitalization requirements for captive or other insurers who provide policies for financial assurance and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?; (2) Should policies written by captives and commercial insurers be treated as equally acceptable mechanisms?; and (3) Should the language of policies written by captives differ in any way from those issued by commercial insurers?

In June 2004, EFAB conducted a workshop in New York City which began to explore the issues raised by the use of several financial assurance mechanisms, including captive insurance. On June 27, 2006, we convened a second workshop in New York City focused exclusively on captive insurance in which we heard from governmental and financial community representatives overseeing and evaluating the captive insurance industry, users of captive insurance, a representative of the EPA Office of the Inspector General, and State government representatives familiar with the use of captive insurance for RCRA financial assurance. We received public comment at the meeting, and subsequently have received additional written comments from business interests and State solid waste management officials.

Our work has been informed throughout by the expertise of government officials willing to share their extensive knowledge of environmental insurance. In particular, we appreciate the insights provided by EPA staff in both OSWER and OECA, and State regulators familiar with the details of both RCRA and Superfund financial assurance requirements and the structure and operations of the captive insurance industry. The active participation of expert EPA staff and representatives of five States in extended discussions at the New York City workshop and in deliberations both before and after the workshop assisted the Board in understanding the nature of and regulatory structure for captive insurance.

The Board appreciates EPA's continuing support and participation in the development of this report and the findings contained herein. If the Agency decides to go forward with the informational materials recommended by the Board, we would be pleased to work with the Agency or its designees on that effort. Meanwhile, we will continue to gather and analyze information on additional topics involving financial assurance in order to respond to the full range of questions EPA has posed to the Board.

We would be pleased to respond to any questions that you may have with regard to today's report or any other aspect of our on-going deliberations.

Sincerely,

A. James Barnes
Chair

A. Stanley Meiburg
Designated Federal Official

Enclosure

cc: Susan Parker Bodine, Assistant Administrator, Office of Solid Waste and Emergency Response
Grant Nakayama, Assistant Administrator, Office of Enforcement and Compliance Assistance

Environmental Financial Advisory Board

The Use of Captive Insurance as a Financial Assurance Tool in Office of Solid Waste and Emergency Response Programs

March 2007

Printed on Recycled Paper

The Use of Captive Insurance as a Financial Assurance Tool in Office of Solid Waste and Emergency Response Programs

Background

The Environmental Financial Advisory Board (EFAB or Board) is examining, at the request of the U.S. Environmental Protection Agency (EPA or Agency), questions concerning the financial assurance requirements for Office of Solid Waste and Emergency Response (OSWER) programs. These requirements address closure, post-closure, corrective action and other aspects of the Resource Conservation and Recovery Act (RCRA) Subtitle C, D and I programs and also are viewed as guidance with regard to Superfund response action. Financial assurance requirements and the issues concerning them are complex and multi-faceted. For this reason, the Board, working with the Agency and other interested stakeholders, is addressing financial assurance mechanisms in discrete and manageable pieces, and focusing sequentially on them. This report addresses captive insurance, and focuses primarily on Subtitle C closure, post-closure, and third party liability requirements.

The Board was charged by EPA with addressing three questions regarding captive insurance: (1) Should there be minimum capitalization requirements for captive or other insurers who provide policies for financial assurance and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?; (2) Should policies written by captives and commercial insurers be treated as equally acceptable mechanisms?; and (3) Should the language of policies written by captives differ in any way from those issued by commercial insurers?

In June 2004, EFAB conducted a workshop in New York City that began to explore the issues raised by the use of several financial assurance mechanisms, including captive insurance. On June 27, 2006, we convened a second workshop in New York City focused exclusively on captive insurance in which we heard from governmental and financial community representatives overseeing and evaluating the captive insurance industry, users of captive insurance, a representative of the EPA Office of the Inspector General, and three State government representatives familiar with the use of captive insurance for RCRA financial assurance. We received public comment at the meeting, and subsequently have received additional written comments from business interests and State solid waste management officials.

Our work has been informed throughout by the expertise of government officials willing to share their extensive knowledge of environmental insurance. In particular, we appreciate the insights provided by EPA staff in both OSWER and OECA, and State regulators familiar with the details of both RCRA and Superfund financial assurance requirements and the structure and operations of the captive insurance industry. The active participation of expert EPA staff and State representatives in extended discussions at the New York City workshop and in deliberations both before and after the workshop assisted the Board in understanding the nature of captive insurance regulation by State insurance regulators, and the regulatory framework for the use of insurance for financial assurance purposes under environmental law.

The Concept of Captive Insurance

RCRA Subtitle C, D and I require that regulated facilities provide financial assurance sufficient to secure funds needed to meet program-specific obligations to properly close, conduct post-closure care or provide needed corrective measures. See, e.g., 40 CFR Sections 264.143 (e) (Subtitle C closure insurance), 264.145(3) (Subtitle C post-closure insurance), Section 264.146 (combination of closure and post-closure care insurance), 264.147 (Subtitle C liability insurance); 258.74(d) (Subtitle D closure and post-closure care insurance and corrective action). Superfund response actions also often require financial assurance and the RCRA regulations provide guidance in these instances. Insurance mechanisms are one option for meeting these requirements under Federal law. Available financial assurance options have included insurance since 1982 (see 47 Fed. Reg. at 15033 (April 7, 1982)).

Insurance mechanisms must assure that funds are available once closure or post-closure begins and in an amount sufficient to cover the current estimate of costs. The facility owner/operator "may receive reimbursements" as these activities proceed (see 40 CFR 264.146; 258.74(d)(4)). Although as a practical matter facility owner/operators may pay for closure/post-closure/corrective action as costs are incurred and not elect to draw on the insurance, the relevant federal or state regulator must have unimpeded ability to direct insurance funds as costs are incurred in the event that the policy holder defaults. While the language that must be used in an insurance policy for financial insurance is explicitly laid out in the regulations, these provisions do not impose any financial requirements or limitations on who may issue the policy.

There are two forms of insurance: "commercial" insurance and "captive" insurance. Captive insurance is distinguished by the initial funding and restriction of its coverage either to one company (so-called "pure" captive insurance where the parent establishes a captive for its exclusive use) or to an enterprise or risk retention group (e.g., brownfields redevelopment projects or a consortium of interests developing an affordable housing development). Captive insurance is used in areas other than environmental protection where corporate parent firms find it to their advantage to set up a captive to cover well-understood risks at a lower cost than purchasing insurance policies available from commercial carriers. Workman's Compensation has been cited as one area where captives are often used. The Board did not attempt to compare other risk areas where captive insurance is used with risks associated with environmental protection.

EPA's Office of the Inspector General in September 2005 summarized concerns which have been raised regarding the use of captive insurance for financial assurance purposes.

> "Captive insurance is defined as insurance issued by a wholly-owned subsidiary of the company being insured. The financial health of the captive insurance company is closely tied with the parent company, so if the company encounters

> financial difficulties there is no guarantee that the captive insurance company would retain the necessary resources to fund closure and post-closure. This concern was expressed in our 2001 report and the ASTSWMO paper. Although we found no specific instances of financial assurance failure associated with captive insurance, States and regions remain concerned because there is no independence of risk between the corporate parent and the company insured." Office of the Inspector General, *Continued EPA Leadership Will Support State Needs for Information and Guidance on RCRA Financial Assurance*, Report No. 2005-P-00026, page 15-16 (September 26, 2005)(hereafter *2005 IG Report*)(updating and superseding a 2001 report by the Office of the Inspector General).

The remainder of this report describes specific issues raised in our discussions with stakeholders on this topic before turning to findings and recommendations. In particular, we summarize the States' specific concerns with captive insurance, as expressed in the June 27 workshop. These concerns were consistent with the recent EPA Inspector General's report summarizing State views on captive insurance. We then summarize the information provided by State governmental and financial community panelists with regard to captive insurance, as well as the views of companies who now use captive insurance. Finally, we offer our evaluation of the materials presented to us, and recommendations to EPA on how it can strengthen the reliability and transparency of captive insurance for financial assurance.

State Concerns about Captive Insurance

According to the September 2005 Inspector General's report cited above, 13 states do not accept captive insurance as a financial assurance mechanism -- *2005 IG Report* at 14. A further reflection of this lack of confidence was that presentations at the June 2006 workshop suggested that other jurisdictions, while not prohibiting the use of captive insurance in principle, impose restrictive requirements on these policies which tend to make them noncompetitive and unavailable in practice.

The three State regulators participating in the New York workshop were consistent in raising concerns about captive insurance:

- Captive insurance is perceived to pose a high risk because of lack of independence (and thus true transfer of risk) between the captive subsidiary and its insured parent.

- State environmental regulators are concerned that captive insurers may not be subject to minimum requirements with regard to capitalization, minimal reserves or encumbrances on reserves (e.g., loans back or reliance on lines of credit).

- Where a captive insures an asset of declining value, like a landfill approaching capacity, there is no mechanism to compensate for the increasing risk of financial failure. State environmental regulators have limited experience with the insurance regulatory structure or with State insurance commissions. In general, State regulators thought that the assurance of quality oversight provided by independent third-party review and ongoing oversight (such as that provided by investment ratings for companies using the financial test, as recommended by EFAB in our earlier report) would be valuable. However, State regulators cautioned that the third party reviewing agency would need to fully understand the particular characteristics of the environmental risks being insured by a captive insurance firm.

- Where a captive is domiciled in a jurisdiction other than the State of the facility at issue, the host State is concerned about licensing requirements and continued oversight by the domicile jurisdiction's insurance regulators. States are concerned by the lack of consistent regulatory oversight in the states of domicile.

Testimony by the Captive Insurance Industry and Regulators

The State of Vermont, which operates the largest domestic program for licensing captive insurance companies, provided extensive background on its activities. This discussion was supplemented by AM Best's presentation on the nature of their assessment of captive insurers' credit quality. The State of Vermont and AM Best shared the perspective that captive insurers are evaluated with regard to licensing with rigor equal to commercial insurers when evaluating the numeric fundamentals, with additional review of the quality of the parent employing a captive and of the business plan for the captive itself.

With regard to specific concerns raised about captive insurance, the panel representing State licensing and private sector oversight provided the following pertinent information:

1. Understanding captive insurance licensing requirements: Although the panel provided an excellent basis on which to improve understanding of captive insurance, they did not articulate in detail the practices of licensing programs by States other than Vermont, or by overseas jurisdictions which license captive insurers. Given that insurance is regulated at the State rather than the federal level, State insurance regulations are not uniform. One State's program may not provide enough of a framework by which environmental regulators can evaluate the quality of captive policies offered by organizations licensed in jurisdictions other than Vermont.

2. Independence: The panel stated that in their experience, in jurisdictions which do license captives, the factual terms of evaluation and requirements with regard to ability to cover claims are equivalent for captive and commercial insurers. These licensing practices, and the nature of rating agencies' oversight, also constitute a check upon parental control of and relationship with its captive. In addition, the State of Vermont imposes independent review authority on aspects of the captive's operations (e.g., the licensing authority must pre-approve loans, changes to the business plan, or changes in coverage). For captives rated by AM Best, there is an additional independent review, again of aspects of operations material to financial assurance (asset value and risk, credit risk exposure, loss reserves,

premiums written and, for captives, long-term performance, diversification and the financial strength of the captive's parent company).

3. Minimum requirements: As noted above, the State of Vermont and AM Best stated that they regularly review both commercial and captive insurers using equal standards with regard to capitalization, reserves, and encumbrances on reserves (e.g., Vermont must pre-approve loan backs and must have immediate and unencumbered access to evergreen Letters of Credit). However, the licensing jurisdiction for a substantial number of captives is outside of the United States. There are no universally recognized minimum standards. The requirements of the varying jurisdictions, both domestic and foreign, may vary considerably.

4. Risk of Failure: The financial assurance requirements for OSWER programs, at the federal level at least, do not have guidelines for minimum financial strength of the companies issuing insurance policies, commercial or captive. Both Vermont and AM Best evaluate diversification of assets and continually monitor asset value and risk. AM Best's rating process specifically analyzes the captive's ability to underwrite effectively, generate capital growth from ongoing operations and pay claims readily. On a stand-alone basis the captive insurer must have the financial means to support the policies written. Significant developments at the captive or the parent can result in rating change, reflecting the changed level of risk of failure.

5. Third Party Review: In response to questions, Vermont, AM Best, the insurance industry and State representatives agreed that third-party fiscal evaluation in the form of a secure rating from AM Best or comparable entities, or the parent's ability to satisfy the financial test (or possession of investment-grade credit with agencies such as Standard and Poor's and Moody's), is important corroborating evidence of fiscal soundness for companies seeking to use captive insurance.

Users of Captive Insurance

The September 2005 Report by the EPA Inspector General summarized the views of the industry it polled as follows: "Industry representatives generally considered the financial assurance mechanisms to be adequate, at least for large companies." (*2005 IG Report* at 17). This view has been reiterated specifically with regard to captive insurance in comments to the Board in the public comment period and in written comments submitted subsequent to the June 27 meeting.

As mentioned above, industry representatives noted that some States refuse to allow the use of captive insurance for meeting financial assurance requirements. Users of captive insurance cited the following reasons why they did so:

- ability to obtain tailored insurance coverage at reasonable rates in a constrained commercial market;

- reduced costs (e.g., the risks are better understood and managed since the parent is expert in the risks insured, and captives' investment income can be used to cover losses); and

- access to the reinsurance market, although this market is limited for captives.

Written comments submitted on behalf of the Superfund Settlements Project and the RCRA Corrective Action Project described their members' views of the value of captive insurance as follows: "Captive insurance is a sophisticated and legitimate financial strategy that benefits the large and medium-sized insurance consumer by providing it with greater control over its risk programs, the ability to achieve cost savings and efficiencies that are passed on throughout its organization, and the opportunity to customize the type(s) of insurance coverage that it purchases." Superfund Settlements Project/RCRA Corrective Action Project, *Letter to Mary Francoeur and Stanley Meiburg, Environmental Finance Advisory Board* (July 28, 2006).

EFAB's ability to evaluate the current use of captive insurance was hindered by a lack of consistent national information on the extent to which captive insurance or other financial assurance mechanisms are used by private sector firms. Additional information on this topic may result from EPA's ongoing national initiative to improve compliance with financial assurance requirements and other ongoing Agency analyses.

Findings and Recommendations of the Board

Findings:

Consistent with our findings with regard to use of the Financial Test for financial assurance purposes, we find that the use of independent credit analysis (i.e., credit ratings) is a cost-effective mechanism for demonstrating the financial strength of a captive insurer. Insurance credit rating institutions like AM Best distinguish secure from non-secure insurers, much as rating institutions like Moody's and Standard and Poor's distinguish investment from non-investment grade credit. These ratings help address the limited capacity of State regulatory bodies to undertake extensive credit analysis. It is important that the rating be current (reviewed within a specific length of time, perhaps the past year).

Because captive insurance has been of particular concern to a number of states, it is especially important that the licensing authority for any captive insurance firm allowed to write policies for use in meeting RCRA or Superfund financial assurance requirements for closure, post-closure care, corrective action or response action be rigorous and transparent in its procedures. The oversight program adopted by the State of Vermont appears to apply strong licensing standards for captive insurance companies. These standards include:

- Initial applications must be detailed and will not be approved unless the captive is capitalized sufficiently to meet its obligations.

- Application requirements include audited financial statements, actuarial certification of loss reserves calculated by an approved actuarial firm, annual reporting, parent company financial statements and regulatory detailed review by the jurisdiction of licensure.

- Enforceable requirements for pre-approval of loan backs (or up-streaming of dividends), change in business plan or claim coverage, and access to evergreen Letters of Credit (if used for capitalization) in the event of financial difficulty.

In addition, the Board agrees with Vermont officials about the importance of having sufficient staffing and funding resources to ensure effective oversight.

It is the Board's opinion that these safeguards, embodied in formal State rules and implemented with consistent and effective state oversight, strengthen captive insurance as a reliable means of providing financial assurance.

Response to EPA's Charge:

With regard to the three questions posed by EPA, the Board responds as follows:

(1) *Should there be minimum capitalization requirements for captive or other insurers who provide policies for financial assurance and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?* The Board concludes that minimum capitalization requirements are necessary. It also concludes that a well-known and respected insurance rating agency, such as AM Best, is in the best position to determine what the minimum capital and surplus level should be for a particular insurer to assure availability of funds for the amount and types of risks being written.

(2) *Should policies written by captives and commercial insurers be treated as equally acceptable mechanisms?* Yes, assuming they meet licensing standards similar to those noted above with regard to the program implemented by the State of Vermont and are subject to effective, independent oversight.

(3) *Should the language of policies written by captives differ in any way from those issued by commercial insurers?* No. Policies issued to provide coverage for financial assurance purposes should clearly meet all applicable regulatory requirements, and the policy language should reflect the adequacy of coverage in all instances.

Recommendations:

The State of Vermont and AM Best have addressed many of the Board's questions about their written requirements for licensing of captives. However, at this time there is no standard requirement for captives to be either licensed in a jurisdiction with requirements equivalent to those imposed by either the State of Vermont, or by other independent review entities. It is understandable why States may not have full confidence in the use of captive insurance policies as a financial assurance mechanism absent comparable understanding of how these captive insurance policies work and are overseen by insurance regulators in jurisdictions other than Vermont, or by entities that are not certified by an independent third party ratings agency.

As a consequence, with respect to captive insurance as a financial assurance tool, the Board recommends that EPA require that:

(1) If the financially responsible affiliate uses a captive insurance policy to provide financial assurance, that the affiliate *either* (a) pass the financial test and unconditionally guarantee the obligations of the captive *or* (b) possess investment grade rating, or

(2) That the captive entity issuing the insurance policy have a rating of "secure" or better by AM Best or comparable rating agency.

(3) The rating of the captive must be formally reviewed by the rating agency annually, at a minimum, and the rating report must be furnished to those States where a captive policy is being used for financial assurance. Further, States must be notified within 30-days of a rating change, an outlook change, or a rating being placed under review.

The Board recognizes that a requirement with respect to ratings of entities issuing captive insurance policies has implications for commercial insurance firms as well. This is one issue that we expect to explore in subsequent deliberations.

The Board also recognizes that these recommendations could require additional EPA evaluative criteria. The Board has heard differing opinions about whether these criteria could be established through guidance, or whether notice and comment rulemaking should be pursued. The question of how the Agency should proceed is beyond the scope of the Board. We note that although rulemaking is strongly preferred by State environmental regulators, it can be time and resource intensive. We also understand that while guidance could be issued more quickly, it is not binding, and EPA cannot require more nationally consistent RCRA financial assurance measures in the absence of amended Federal rules.

One option the Agency could consider, in the absence of amended rules, is to develop information now which would assist State environmental regulators in evaluating entities issuing captive insurance policies whose parents would not now pass the financial test or who do not possess secure ratings themselves. This information could include examples of best practices by licensing agencies such as those cited above as practices by the State of Vermont. In creating this information, EPA could work with the State of Vermont, other States and international licensing boards to outline critical elements of regulatory oversight, articulate desirable working practices that may be insufficiently articulated in the formal regulatory framework, and provide guidelines to evaluate whether licensing agencies have sufficient resources to adequately enforce standards (e.g., fee for service to assure adequate staffing).
Of course, an entity that utilizes a captive may continue to satisfy the financial assurance requirements if it meets the financial test itself or secures the appropriate corporate guarantee. In such cases, it would not be necessary to consider the captive's rating.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 25 2007

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

Mr. A. James Barnes
Chair, Environmental Financial Advisory Board
United States Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

Dear Mr. Barnes:

Thank you for your letter of March 20, 2007, to Administrator Johnson on the Environmental Financial Advisory Board's report that explores the use of captive insurance as a financial assurance tool in the Agency's waste and remediation programs. My staff and I appreciate all of the work the Board has done on this important topic, and recognize the Board's consultation with a broad range of interested parties. EPA greatly appreciates the Board's inclusion of State and EPA staff in many of its meetings on this topic. We find that the Board's input on captive insurance, as well as other issues, is extremely valuable as we consider moving forward with improvements to the RCRA financial assurance requirements.

In response to its charge, the Board presented several important findings and recommendations on captive insurance that the Agency will take under advisement. Consistent with the Board's findings with regard to the use of the financial test for financial assurance purposes, the Board found that the use of independent credit analysis is a cost-effective mechanism for demonstrating the financial strength of a captive insurer. We note that the Board will also examine the issue of ratings as it looks at commercial insurers.

With respect to the Board's earlier recommendations on the financial test, I recently directed my staff to initiate the Agency's Action Development Process (ADP) to more fully analyze possible regulatory options concerning the RCRA Subtitle C financial test. By entering into the ADP, EPA is acknowledging that the current financial test does present a number of issues that need to be explored. One of the options that will be analyzed through this process is the recommendation from the Board that EPA include an independent ratings requirement to Alternative I of the current financial test. Although initiating the ADP is the first step in pursuing regulatory alternatives, a possible outcome of the process could be to address these concerns through implementation assistance rather than pursuing regulatory changes.

EPA appreciates the expertise and experience that the Board brings and values the insights it can provide. EPA looks forward to receiving the findings in response to the other questions presented to the Board.

Sincerely,

Susan Parker Bodine

Susan Parker Bodine
Assistant Administrator

ENVIRONMENTAL FINANCIAL ADVISORY BOARD

FEB 25 2010

Honorable Mathy Stanislaus
Assistant Administrator
Office of Solid Waste & Emergency Response
U.S. Environmental Protection Agency
Washington, D.C. 20460-0001

Dear Mr. Stanislaus:

The Environmental Financial Advisory Board (EFAB) was asked by the Office of Solid Waste and Emergency Response to review a range of questions concerning the financial assurance requirements for programs established under the Resource Conservation and Recovery Act (RCRA). This report addresses the use of commercial insurance as a financial assurance tool, and is the third in a series of reports responding to this request. Our earlier reports addressed the use of the financial test/corporate guaranty, and captive insurance. These reports can be viewed on the EPA website at www.epa.gov/efinange/efabpub.htm.

EFAB was charged with addressing three questions regarding Commercial Insurance: (1*) What are the strengths and pitfalls of insurance?;* (2) *Should there be minimum capitalization for insurers who provide policies for financial assurances and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?;* and (3) *Many people have suggested standardized policy language for insurance. Would this be advisable and, if so, how might it be developed?*

EFAB conducted a workshop in New York City to focus on the use of insurance, at which time EFAB heard from insurance carriers, users of insurance, representatives of OSWER, and three state representatives familiar with the use of insurance for RCRA financial assurance. EFAB also heard from attorneys knowledgeable about the use of insurance as a form of financial assurance, and from consultants specializing in the area. EFAB also received public comment at the meeting.

This report is the result of many months of deliberations. In general, EFAB believes that in many cases insurance is a viable, valuable mechanism for providing financial assurance. It is an option that may be even more useful during times of economic difficulty, when the market for alternative financial assurance instruments may be restricted. EFAB believes that any changes made to the use of insurance should not result in insurance becoming impractical, unavailable, or prohibitively expensive as a financial assurance instrument. However, EFAB also believes that insurance should provide a level of protection to the regulatory agency and the public comparable to other financial assurance mechanisms, as explicitly stated under the policy and up to the stated limit of liability, in the event the owner/operator is unable to meet its closure, post-closure or corrective action obligations. EFAB believes that it is essential that insured parties, insurance companies, and regulatory agencies operate with a common understanding of the obligations and limitations of insurance as a financial assurance instrument. Finally, as it did for captive insurance, EFAB supports the concept of a third party evaluation of the soundness of providers of insurance as a financial assurance instrument.

EFAB appreciates the continuing opportunity to provide financial advisory assistance to EPA on issues of national importance. We hope that you find our recommendations constructive and useful.

Sincerely,

A. James Barnes
Chairman

A. Stanley Meiburg
Designated Federal Officer

Enclosure

cc: Lisa P. Jackson, Administrator
Bob Perciasepe, Deputy Administrator
Barbara J. Bennett, Chief Financial Officer

Environmental Financial Advisory Board

EFAB

Financial Assurance: Commercial Insurance as a Financial Assurance Tool

February 2010

Printed on Recycled Paper

REPORT ON COMMERCIAL INSURANCE

I. CHARGE

At the request of the U.S. Environmental Protection Agency (Agency), the Environmental Financial Advisory Board (Board) is examining questions concerning the financial assurance requirements established under the Resource Conservation and Recovery Act (RCRA).

These requirements address closure, post-closure, corrective action and other aspects of the RCRA Subtitle C hazardous waste program, the Subtitle D non-hazardous waste program, and the Subtitle I underground storage tank program. The Board acknowledges that the financial assurance mechanisms and requirements for the RCRA Subtitle C and D programs are different than those established for the underground storage tank program under RCRA Subtitle I. Notwithstanding these differences, the Board notes that administrative and litigation experience related to the use of underground tank insurance is applicable to the discussion of the RCRA Subpart H financial assurance requirements. Specifically, the statutory and regulatory language of the RCRA financial assurance program underpins the design of the UST financial assurance program; and as a consequence, the Agency's position, administration and litigation precedent are relevant to the subject matter of this report. As such, where relevant, this report includes reference to financial assurance programs beyond the RCRA Subpart H program to assure a full and fair description of the concerns with respect to the use of insurance as a means of demonstrating financial assurance. The Board limits its discussion to financial assurance as provided for under RCRA. It does not address the use of financial assurance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), because the program administration, regulatory terms and statutory authorities are not bound by the RCRA financial assurance provisions.

The financial assurance requirements established under the RCRA program are complex and multi-faceted. For this reason, in collaboration with the Agency, the Board is addressing discrete, manageable pieces of the inquiry into the use of insurance as a means of demonstrating financial assurance. For example, the Board provided its views on the "financial test" and "captive insurance" to the Agency on January 11, 2006 and March 20, 2007, respectively. In addition, the Board views the accuracy of cost estimates as a matter of paramount importance and plans to address this issue in a separate report. This report on commercial insurance addresses insurance used to satisfy financial assurance for closure, post-closure and third party liability requirements.

Specifically, the Board was charged with the following questions relating to insurance:

> **What are the strengths and pitfalls of insurance?**
>
> **Should there be minimum ratings for insurers that provide financial assurance?**
>
> **Should there be minimum capitalization requirements for captive or other insurers which provide policies for financial assurance and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?**
>
> **Should insurance policies written by captives and commercial insurers be treated as equally acceptable mechanisms?**
>
> **Should the language of insurance policies written by captives differ in any way from those issued by commercial insurers?**
>
> **Is standardized policy language for insurance advisable? If so, how might it be developed?**
>
> **What are appropriate safeguards (such as capitalization, rating, coverage, etc.), if any, for insurance for a Brownfields cleanup?**

By letter dated March 20, 2007, the Board partially addressed these questions by focusing on issues relating to captive insurance. Specifically, the Board answered three questions related to captive insurers as follows:

> "*(1) Should there be minimum capitalization requirements for captive or other insurers who provide policies for financial assurance and, if so, what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?* Yes. The Board concludes that minimum capitalization requirements are necessary. It also concludes that a nationally recognized statistical rating organization (NRSRO), such as AM Best, is in the best position to determine the minimum capital and surplus levels necessary to ensure that a particular insurer will have funds available commensurate with the amount and types of risks underwritten.
>
> *(2) Should policies written by captives and commercial insurers be treated as equally acceptable mechanisms?* Yes, assuming they meet the same licensing standards as those noted with respect to the program implemented by the State of Vermont, and assuming the insurers are subject to effective, independent oversight.

(3) Should the language of policies written by captives differ in any way from those issued by commercial insurers? No. Policies issued to provide coverage for purposes of financial assurance should clearly meet all applicable regulatory requirements, and the policy language should reflect the adequacy of coverage in all instances."[1]

The Board further recommends that a captive insurance policy may be used as a financial assurance tool, if the captive carrier meets certain tests set forth in the report accompanying the Board's March 20, 2007 letter and meets the general regulatory requirements established for commercial insurers.[2]

The current report addresses the requirements for commercial insurance, as a financial assurance tool. In June 2008, the Board conducted a workshop in New York City to focus on the use of insurance, at which time the Board heard from insurance carriers, users of insurance, representatives of OSWER, and three state representatives familiar with the use of insurance for RCRA financial assurance. The Board also heard from attorneys knowledgeable about the use of insurance as a form of financial assurance, and from consultants specializing in the area. The Board received public comment at the meeting.

This report is the result of many months of deliberation. The Board recognizes that a divergence of opinion exists between the regulators, the regulated community and third parties with respect to the legal parameters underpinning the use of financial assurance. Specifically, the Board recognizes that divergences of opinion exist with respect to conflict of laws involving the regulation of insurance and the regulation of environmental issues. These divergences of opinion manifest in ongoing and periodic litigation. The Board is not in a position to assess or resolve matters at issue in subject litigation. Rather, the Board's position is to offer practical, financially-oriented recommendations designed to assist the Agency in achieving its strategic objectives. It is this practical advice on which the Board's deliberations have focused, and which is the subject of this report. In this report, the Board focuses on providing meaningful responses to the questions posed by the Agency. The Board leaves it to the Agency to weigh the recommendations offered below in the context of its statutory authority and established public policy framework for financial assurance.

II. BACKGROUND & CONTEXT

A. The Nature of Insurance

An insurance policy is a contract between two parties, the insurer and the insured. Generally, the insurance policy covers specific risks, as stated in the policy and up to a prescribed limit of liability (i.e., a dollar amount) specified in the policy. Depending on the nature of the policy, the insurer agrees to pay, pay on behalf of, or reimburse the

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[1] See page 7 of the Board's report accompanying the March 20, 2007 letter.
[2] See pages 6 – 8 of the report accompanying the letter.

policyholder(s) under triggering conditions specified under the terms and conditions of the policy. In general, such conditions might include:

1. The occurrence of a policy triggering event, as such events are defined under the terms and conditions of the policy;
2. Satisfaction of the conditions of the policy (e.g., providing required notice, payment of premium, etc.) have been met;
3. Determination that exclusions either are not applicable or apply only to certain components of the claim; and
4. Satisfaction of all other requirements and conditions of the policy (e.g. a policy procured by fraudulent means may be void ab initio in some cases).

In exchange for this protection, the insured agrees to pay a policy premium to the insurer. Depending on the agreed-upon policy terms, and the financial condition of the insured, this premium payment may be paid “up front” or over a period of time. The dollar amount of the premium is based primarily on the insurer’s assessment of the covered risks (i.e., likelihood that the risk will manifest and a claim will be made against the policy).

The terms of the insurance policy may result from negotiations between the insurer and the insured; or, state law may prescribe some or all of the terms (e.g., as in the case for Workman’s Compensation and Employer’s Liability, Homeowner’s Coverage). Commercial insurance also may be used to comply with the laws and regulations concerning financial assurance.

The RCRA Subpart H, e.g., Subtitle C and Subtitle D, financial assurance regulations do not mandate specific policy language for insurance policies. Instead, the owner or operator shall provide a certificate from the insurer which states: (1) the policy conforms to the requirements of the regulations, and (2) the insurer agrees that any inconsistent provisions of the policy are amended to eliminate such inconsistencies.

In the context of RCRA Subtitle I financial assurance provisions for Underground Storage Tanks, some regulatory agencies have taken the position that the insurance policy covers risks that appear to be excluded under traditional insurance law and the specific language of the policy.[3] As evidenced by litigation, this position reflects a divergence of opinion involving the regulation of insurance and the regulation of environmental issues, as noted above. In certain jurisdictions, the consequence of the regulator’s legal position may be that insurance is rendered unavailable or becomes prohibitively expensive, Another potentially unintended consequence of the regulator’s position may be that insurance, as a means of financial assurance, is treated like surety, and therefore becomes subject to applicable surety regulations, which may affect availability, price, terms and conditions.

[3] See Zurich American Insurance v. Whittier (9th Circuit, 2004). Note, this case relates specifically to the financial assurance provisions underpinning the Underground Storage Program (Subtitle I). The same issues have not, to date, been tested under other RCRA Subpart H, e.g., Subtitle C or Subtitle D, provisions.

Further, the nature of risks for which insurance provides protection varies. For example, companies may seek insurance to:

- ✓ Manage environmental risks which are known to manifest on occasion at regulated sites, using insurance as a risk transfer mechanism.

- ✓ Manage risks of cost overruns associated with known, as well as unidentified or unknown risks.

- ✓ Manage both the probability of an environmental risk manifesting, as well as the potential for a cost overrun associated with its concomitant remediation obligations, because the company knows neither the extent of possible environmental contamination, nor the cost of remediation.

In general, a company's decision as to which type of insurance product to purchase is a function of administrative risk and risk arising from governmental decision-making, as well as a function of the advancement in science before (and sometimes after) discovery of the event and/or its remediation.

According to witnesses who presented before the Board, and to conversations with EPA and State officials, the circumstances involving the transfer of risk of cost over-runs for a defined or unknown environmental risk is less likely to occur in the case of closure or post-closure, and more likely to occur when dealing with RCRA corrective action requirements. Regardless of the situation, the use of insurance as a financial assurance mechanism is intended to provide assurance to the regulatory agency that closure, post-closure and/or corrective action will occur when necessary, within the conditions and extent of coverage provided by the policy.

B. The Statutory Framework

Congress through a series of Acts, including the Solid Waste Disposal Act of 1965, the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments of 1984, enacted legislation collectively known as the Resource Conservation and Recovery Act (or RCRA). Generally, RCRA places primary responsibility for closure and post-closure obligations of a covered facility's environmental obligations, as well as any corrective action that may be required, on the owner and operator of the facility.

The statute at 42 USC §6924 (a)(6) provides that the Administrator of the Agency shall set standards by regulation for financial responsibility of the owners and operators.

At USC 42 § 6924 (t), the statute further provides that:

…

(1) Financial responsibility…may be established…by any one, or any combination, of the following: insurance, guarantee,

surety bond, letter of credit, or qualification as a self-insurer. In promulgating requirements under this section, the Administrator is authorized to specify policy or other contractual terms, conditions, or defenses which are necessary or are unacceptable in establishing such evidence of financial responsibility in order to effectuate the purposes of this chapter….

(3) The total liability of any guarantor shall be limited to the aggregate amount which the guarantor has provided as evidence of financial responsibility to the owner or operator under this chapter….

(4) For the purpose of this subsection, the term "guarantor" means any person other than the owner or operator, who provides evidence of financial responsibility for an owner or operator under this section.

C. RCRA Financial Assurance Regulations

The Code of Federal Regulations at 40 CFR 264/265 Subpart H sets forth allowable mechanisms for an owner or operator of a hazardous waste treatment, storage or disposal ("TSD") facility "to establish financial assurance" in order to assure that funds necessary to satisfy closure and post-closure care and third-party liability are available. The Code of Federal Regulations at 40 CFR 257/258 sets forth allowable mechanisms for new and existing Municipal Solid Waste Landfills – the management of non-hazardous solid waste.

Financial assurance options delineated by the regulations under RCRA Subtitle C and Subtitle D include: (1) trust funds, (2) surety bonds guaranteeing payment or performance, (3) letters of credit, (4) insurance, (5) proof of financial responsibility by the owner or operator in the form of a corporate financial test, or (6) guaranty of a party with a 'substantial business relationship' to the owner or operator. With respect to corrective action, the regulatory requirements under RCRA at 40 CFR 264.101, require demonstration of financial assurance, but do not specify the type or nature of the financial mechanisms that may be used to comply; for example, the section does not refer to the financial mechanisms delineated at 40 CFR 264.151. The Board does not wish to limit the financial mechanisms available for corrective action to those set forth in the RCRA Subtitle C and Subtitle D regulations. However, the Board's comments on these regulations are similarly applicable to corrective action to the extent similar financial instruments are used.

The above-listed financial instruments are designed to satisfy the financial assurance requirement in different ways. For example, the surety of a payment or performance bond "must be liable on the bond obligation when the owner or operator fails to perform as guaranteed on the bond", whereas the trustee of a trust is obligated to "make payments from the fund as the EPA Regional Administrator [or delegated state authority] shall direct."[4] Moreover, the regulations under RCRA Subtitle C and Subtitle D establish different requirements for the parties providing (or underwriting) the financial assurance instrument. For example, the surety of a payment or performance bond must be listed on Circular 570 of the U.S. Department of the Treasury. The issuing institution of a letter of credit must have its letter of credit operations regulated and examined by a federal or state agency.

Both the RCRA Subtitle C and Subtitle D regulations require that the insurer be licensed to transact the business of insurance, or be eligible to provide insurance as an excess or surplus lines insurer, in one or more States. Neither the RCRA Subtitle C, nor the RCRA Subtitle D, regulations establish minimum requirements concerning the financial strength of the insurer. Further, neither set of regulations provide specific (standardized) language for an insurance policy used to comply with the financial assurance provisions. Rather, the closure regulations at 40 CFR 264.143(e) and at 40 CFR 265.143(d), and the post-closure regulations at 40 CFR 264.145(e) and at 40 CFR 265.145(d) specify several requirements that the owner or operator must meet, and terms and conditions that must be provided for in the insurance policy.

For example, the closure and post-closure regulations require that the applicable insurance policy assure that the insurer shall pay out funds upon the direction of, and to the party specified by, the governing regulatory agency. The regulations also require that the limit of liability of the insurance policy be at least equal to the current estimated cost for the event(s) covered, unless the insurance policy is being used as part of a combination with other allowable financial mechanisms (i.e., trust fund, surety bond guaranteeing payment, or letter of credit).

With respect to the use of commercial insurance as a form of financial assurance, the RCRA Subtitle C regulations for hazardous waste require the owner or operator to provide the governing regulatory authority with a "certificate of insurance," as provided for at 40 CFR 264.151(e) within a specified time frame. A similar provision does not exist under the Subtitle D regulations for non-hazardous solid waste management. The certificate of insurance must have the following exact language (except that instructions in brackets are to be replaced with the relevant information and the brackets deleted). The text highlighted in bold below conforms the policy to the regulations.

> Certificate of Insurance for Closure or Post-Closure Care
>
> Name and Address of Insurer
>
> (herein called the "Insurer"):_______________
>
> Name and Address of Insured
>
> (herein called the "Insured"):

[4] See 40 C.F.R. pt. 264.

Facilities Covered: [List for each facility: The EPA Identification Number, name address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below].

Face Amount:_______________
Policy Number:______________
Effective Date:_______________

The insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post closure care"] for the facilities identified above. **The insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e), 264.145(e), 265.143(d), and 265.145(d), as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.** [Emphasis added.]

Whenever requested by the EPA Regional Administrator(s) of the U.S. Environmental Protection Agency, the Insurer agrees to furnish to the EPA Regional Administrator(s) a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 40 CFR 264.151(e) as such regulations were constituted on the date shown immediately below.

[Authorized signature for insurer]

[Name of person signing]

[Title of person signing]

Signature of witness or notary:____________________

D. DISCUSSION OF CHARGE QUESTIONS

1. STRENGTHS AND PITFALLS OF INSURANCE

An insurance policy is a contract between the insured and the insurance carrier. In general, the regulatory agency is not a party to the contract. However, under certain circumstances, the regulatory agency may request that it be listed as a beneficiary and/or be a party to the contract.

Owners and operators of RCRA Subtitle C and Subtitle D facilities seek insurance for a variety of reasons. The stated terms and limits of liability established by an insurance policy will vary depending on the underlying objective of the policy, and the expectations of the parties bound by the policy. For example, assume that the owner or operator of a RCRA Subtitle C or Subtitle D facility intends to pay for its closure, post-closure and corrective action obligations using cash flows directly from its operating activities, from the sale of assets, or from its affiliates (e.g., a corporate parent). For business reasons, the same owner or operator chooses not to (or can not) use the corporate financial test as a financial assurance option. Under the RCRA regulations, the owner or operator is required to provide a financial instrument to the regulator as demonstration of financial assurance. In this case, the owner's or operator's primary driver for acquiring insurance is the need to meet its regulatory obligation to have compliant financial assurance.

In general, insurance may be used either to make the insured whole upon the manifestation of the covered risk or to compensate an injured party, assuming adequate coverage has been purchased. An insurer usually makes a payment to the policyholder once the claim is valued.[5] Further, under the RCRA closure, post-closure and corrective action provisions, an insurance policy may be used in combination with a subset of other financial instruments, including a letter of credit, surety bond guaranteeing payment or a trust fund.

The characteristics which evidence both the strengths and pitfalls of insurance are detailed below.

Strength. Independent Valuation of Risk
The insurance carrier independently evaluates the risk in determining whether to assume the risk of issuing a policy. The Board heard from experts who suggest that this independent valuation adds credibility to the cost estimates on which the regulatory agency relies. However, the accuracy of the cost estimate itself cannot be inferred from the acceptance by an underwriter; only that the limit of liability stated in the policy can be satisfied.

When closure, post-closure and, as necessary, remediation for corrective action occurs, the carrier may independently review the methods and cost of the activities proposed. This has the advantage of encouraging efficiency and controlling costs; but also can contribute to the disadvantage of possibly delayed, or denied, payment of a claim. The Board heard differing views on claims payment. Some regulators stated that insurance carriers unnecessarily delay or deny claims, while representatives of the insurance carriers disagreed with this characterization. At times, disputes over payment of claims have been resolved by litigation.

[5] Some insurance carriers view their role as more than paying out a sum of money requested (or demanded) in the precise amount requested (or demanded). These carriers may wish to make their own assessments to determine that the amount requested is appropriate, and may seek a voice in the selection of a particular remedy. These carriers believe that they are experienced in reviewing remedies, and can "add value" or reduce costs by virtue of their expertise.

Strength. Flexible Financial Instrument

In general, most insurance policies addressing RCRA closure, post-closure and corrective action are negotiated on a site-specific basis. As such, insurance represents a flexible financial instrument that can be tailored to the needs of the insured and the regulatory agency.

In general, insurance carriers price insurance policies based on the type, expected frequency and magnitude of risk assumed. For some policies, the primary risk is environmental, and not the creditworthiness of the insured. In such cases, where the triggering event of risk is truly fortuitous, the insurance carrier may not require collateral or impose credit-based restrictions that a provider of other types of financial assurance may require. If the insurer is willing to assume the risk for costs associated with closure, post-closure or corrective action, insurance may be available to owners/operators, who cannot meet the corporate financial test or are unable to obtain other types of financial assurance (e.g., letter of credit). Insurance sends risk-based price signals in the form of premiums – how much must the insured pay for the coverage delineated by the policy. As such, the premiums efficiently reflect assumed risk.

All of the experts who presented to the Board acknowledged that the flexibility inherent to insurance constitutes a significant advantage.

Pitfall. Complex Contractual Instrument

The Board appreciates that with flexibility comes the potential for complexity. Insurance policies tend to be complex legal documents, varying from jurisdiction to jurisdiction, from owner/operator to owner/operator, and from site to site. Experts specializing in the use of insurance as financial assurance acknowledged challenges in appreciating the implications of the varying provisions (exclusions, endorsements) underlying insurance policies. These experts stated that substantial time and effort tends to be devoted to the administration of insurance policies used to comply with financial assurance requirements.

Pitfall. Jurisdictional Challenges with Respect to the Interplay of State and Federal Law

It has come to the Board's attention that some insurance carriers, and at least some regulatory agencies, have fundamentally differing views on the scope of coverage provided by an insurance policy, and of the required certificate issued pursuant to the RCRA regulations at 40 CFR 264.151. In the Board's opinion, these differences of opinion go beyond questions of interpretation of specific policy language and extend to the interplay between federal and state environmental regulations and state/general insurance law, including the resulting impact on the legal obligations of the insurance carrier.

The Board notes that some carriers and some regulating agencies have fundamentally differing views on the scope of coverage provided by an insurance policy and of the required certificate issued pursuant to the RCRA regulations. These differing views go beyond questions of interpretation of specific policy language, an inevitable consequence of any complex contract, and reach the extent to which state and general insurance law affect the carrier's obligations.[6] Simply stated, one recurring issue is whether the insurance policy provides a "guarantee" or simply "assurance" to the regulating agency. Divergent views of the obligations of the parties furnishing or relying on an insurance policy create different expectations. In such circumstances**,** the regulatory agency may not feel it has the financial certainty that it believes it has with other financial assurance instruments**,** such as a letter of credit. Likewise, the insurance carrier may believe it is required to assume risks and to provide guaranties, for which it did not contract.

The Board notes that all of the experts from whom it received information, including those who focused on the pitfalls of insurance, emphasized that insurance is a viable, valuable tool for providing financial assurance. When asked, each presenter stated that any changes or recommendations concerning the use of insurance as a means of RCRA financial assurance should not render it prohibitively expensive or unavailable.

2. MINIMUM FINANCIAL REQUIREMENTS FOR INSURANCE CARRIERS -- Minimum Ratings and Capitalization

Each state has a detailed regulatory scheme concerning the use of insurance within its jurisdiction. The current RCRA regulations do not establish minimum standards for the financial strength of insurance carriers. Instead, the regulations simply require that insurance carriers "be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer," in at least one state. When asked, no presenter saw a need for a more stringent federal licensing requirement except as may be required by existing state law.

As with any financial assurance instrument, including surety bonds and letters of credit, the strength of the instrument is predicated on the financial strength of the issuing institution and the underlying underwriting criteria. In the absence of meaningful criteria measuring the financial strength of the issuing financial institution, the value of the financial assurance may be questionable.

In response to questions posed by the Board, the presenters from state environmental agencies stated that they did not have the capacity to evaluate the financial strength of each insurance carrier. Instead, if inquiries were made, they relied on the determination of the state regulating insurance agency or on the evaluation of independent third party entities which rate the financial strength of insurance companies.

Each presenter who was asked stated that there should be minimum requirements to evidence the financial strength of the insurer. The presenters, who were asked, stated that a minimum rating of A from A.M. Best or from a nationally recognized statistical rating

[6] Id. for Whittier v Zipmart

organization (NRSRO) would be appropriate. The exception, the representative of the State of Washington, stated that a minimum rating of B+ was satisfactory.

The Board previously determined that a captive insurance company which relied on a rating from an independent agency to establish its financial capacity should have a rating of "Secure" or better. No presenter suggested that there should be a lesser minimum standard for commercial insurers than for captive insurance companies.

3. STANDARDIZED LANGUAGE

As the Board understands, not all states receive or review the actual insurance policy, including endorsements, provided by companies for purposes of complying with RCRA financial assurance requirements. As a result, many regulators are unaware of the specific provisions which underpin the policy. Rather, these regulators rely on the certificate required at 40 CFR 264.151 as proof of compliant financial assurance and adequate coverage for closure, post-closure and corrective action. Conversely, according to representatives of both the insurance carriers and the regulators, there are some state regulators who carefully review and negotiate the insurance contracts. The Board finds that there is a divergence of views among regulators as to the level of review that is deemed advisable, as well as the level of review that actually is performed.

While some states have “suggested” or “pre-approved” provisions, the Board is unaware of any environmental agency that states that specific language is required for insurance policies, which are used for purposes of demonstrating financial assurance. In some states, the policies often are negotiated to fit particular risks at a particular site. The Board, however, heard anecdotal reports that some states are uncomfortable with insurance as a viable financial assurance instrument and have established restrictive requirements, such that no or few carriers are willing to underwrite policies in that jurisdiction.

For example, to the Board’s knowledge, no new insurance carriers have entered the market in California since the state regulatory body introduced “pre-approved” language. Further, all newly effective insurance policies in California contain the recommended language.

When asked, every presenter opposed having federally mandated, standardized language for an entire insurance policy – regardless of whether the individual favored recommended or pre-approved language or expressed serious reservations about insurance. As a rationale, each presenter emphasized the flexibility afforded by insurance in varying situations; federally mandated (or standardized) insurance language would limit this flexibility. Moreover, when asked, most presenters stated that an insurance carrier should be required to assume obligations only as explicitly provided for in the insurance policy, and up to the maximum allowable coverage (or limit of liability). The representatives of the insurance carriers stated that they underwrite and price insurance policies based on the underlying terms and conditions of the policies, and the existing state of the law at the time.

As stated before, the Board finds that there is fundamental disagreement as to the effect and meaning of the RCRA regulations and the required certificate which conforms the insurance policy to the regulations. One state representative contended that the insurance policy together with the certificate constitutes a "financial guarantee." Representatives of the insurance carriers, as well as a presenter who was an independent consultant, argued that insurance is fundamentally a risk management tool, insurance is not a financial guarantee – insurance represents a contract covering agreed upon risks up to a financial limit of liability.

RESPONSE TO THE AGENCY'S CHARGE

With regard to the questions posed by the Agency, the Board responds as follows:

1. What are the strengths and pitfalls of insurance?

This question has been addressed in the section entitled Strengths and Pitfalls of Insurance.

2. Should there be minimum capitalization for insurers who provide policies for financial assurances and, if so what requirements would best assure funds are available for protection of the environment, including closure, post-closure, corrective action and other environmental clean-up?

The existing minimum requirement that an insurance carrier be licensed in one or more states is not sufficient to assure financial viability but is necessary protection that should be retained.

The Board believes that this requirement should be augmented with an objective third-party analysis of the capacity of the carrier to meet its obligations.

3. Many people have suggested standardized policy language for insurance. Would this be advisable and, if so, how might it be developed?

Answer: Mandatory policy language is not advisable.

E. RECOMMENDATIONS

Minimum Capitalization. Particularly in times of economic uncertainty, the Board believes that the financial strength of institutions providing financial assurance takes on increasing importance. In the Board's opinion, the current minimum requirement, namely that the institution "be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer" in at least one state, is necessary but not sufficient protection. The Board recognizes that not all insurers have equal financial strength. Establishing a minimum financial standard, in addition to the existing licensing requirement, may lessen the number of insurance carriers capable of writing insurance. This raises the issue of what measure of financial strength would be appropriate.

The regulatory agencies, which presented at the workshop, readily admitted that they lacked the capacity to evaluate the financial strength of insurance carriers. The Board believes that this function may be best served by a nationally recognized statistical rating organization (NRSRO), such as AM Best, which specializes in objective third-party analysis of financial viability.

The Board notes that all members agree that there should be minimum requirements to evidence the financial strength of an insurer underwriting insurance for environmental financial assurance. The Board also agrees that a minimum acceptable rating from AM Best or a similar nationally recognized rating agency is appropriate. However, there is a divergence of opinion among the Board as to what constitutes an appropriate minimum acceptable threshold rating.

The Board believes that the various financial instruments used for financial assurance should provide a comparable level of protection to the regulatory agency and the public against insolvency of the provider of the financial assurance instrument. Such level of protection should consider both the risk of insolvency of the provider, and the availability and cost of the product. The Board has not yet examined letters of credit or surety bonds. Accordingly, the Board is deferring the recommendation of a specific minimum rating for a third-party provider until such study is complete.

Standardized Policy Language. As stated above, the Board does not recommend mandatory language for insurance policies for purposes of RCRA financial assurance. The Board believes that both the regulated community and the public are better served when insurance policies contain specifically negotiated provisions to meet the specific characteristics of each insured and each facility. The Board believes that keeping insurance policy language flexible and targeted to specific sites helps to ensure that insurance remains an affordable and readily available financial assurance instrument.

Moreover, the Board recommends caution in adopting "recommended," "pre-approved," or "suggested" provisions. The states that have done so appear to be pleased with the results to date. Nevertheless, the Board sees the potential that "recommended" provisions become *de facto* required. This may result in limiting the availability of insurance or possibly other financial assurance instruments in times of economic uncertainty. The Board is concerned with the different views of the rights and duties of the regulatory bodies and the insurance carriers under insurance policies. This seems to be especially the case in situations where the regulatory body is not involved in negotiating the coverage of the insurance policy, and may not have seen the policy itself.

The Board believes that it is not in the public interest, nor in the interest of the parties to any contract, in this instance a contract between the insurer and the insured, for the various parties to enter into a new arrangement under which each has fundamentally different expectations. Accordingly, the Board encourages involved parties to express explicitly their respective expectations. In the event, they are not able to come to an agreement, the parties may determine that insurance is not available or may not be an appropriate method for financial assurance in the particular situation. *The Board suggests that the Agency adopt procedures under which the regulatory authority can specifically agree to limitations contained in the insurance policy, or in the alternative specifically reject such limitations prior to the time the carrier becomes legally obligated to issue the policy.* If the regulatory agencies fail to adopt such procedures, the insurance carrier may choose to ask the regulatory body to state affirmatively its position on a particular insurance policy. If the regulatory body declines to do so, the carrier may refuse to issue the insurance policy or charge a different premium.

The Board recognizes that the introduction of additional procedures further complicates what some stakeholders have represented as an already difficult administrative task. The Board also understands that imposing additional procedures may not eliminate all contract disputes. Further, these additional procedures may not effectively resolve all issues that may come about when the insurer is obligated to renew an existing policy, the regulatory agency seeks to materially change the existing terms of the policy, or the insured is unable to furnish other satisfactory financial assurance. In some circumstances, the application of additional procedures may result in insurance not being available or chosen as a financial assurance mechanism. The Board believes, however, that the advantages of having common expectations outweighs these disadvantages and would lessen the suspicion with which some in the regulatory community view insurance as a viable financial assurance instrument.

The Board recognizes that the use of insurance for financial assurance purposes is a highly complex area, with which few have expertise. As the presenters at the workshop pointed out, regulators have widely divergent views on its use. The Board encourages the Agency to provide outreach and education to state regulatory authorities on the use of insurance as a financial assurance instrument.

Finally, the Board reemphasizes the importance of cost estimation. Specifically, the Board believes that developing analytically rigorous and defensible cost estimates is the cornerstone of all financial assurance instruments, including insurance. A financial assurance instrument that is predicated on a cost estimate which is too low limits the amount of financial protection afforded by the instrument. Likewise, a cost estimate which is too high unnecessarily increases the cost to the insured, and may even render the financial assurance instrument unfavorable.

CONCLUSION

The Board believes that, in many cases, insurance is a viable, valuable mechanism for providing financial assurance. It is an option that may be even more useful during times of economic difficulty, when the market for alternative financial assurance instruments may be restricted. The Board believes that any changes made to the use of insurance should not result in the use of insurance being impractical, unavailable, or prohibitively expensive. However, the Board also believes that insurance as a financial assurance mechanism should provide a comparable level of protection to the regulatory agency and the public, as explicitly stated under the policy and up to the stated limit of liability, in the event the owner/operator is unable to meet its closure, post-closure or corrective action obligations.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 21 2010

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: EFAB Report on Commercial Insurance as a Financial Assurance Tool

FROM: Mathy Stanislaus
Assistant Administrator

TO: Barbara J. Bennett, Chief Financial Officer
Office of Chief Financial Officer

Thank you for your March 18, 2010 transmittal of the Environmental Financial Advisory Board (EFAB) report, *Commercial Insurance as a Financial Assurance Tool*. Earlier, the EFAB had provided the agency with reports on the financial test and corporate guarantee, and the use of captive insurance. This report provides the EFAB's advice on commercial insurance as a financial tool, including the strengths and pitfalls of insurance, the value of minimum ratings and capitalization requirements for commercial insurers, and the feasibility and advisability of standard policy language for the insurance used to provide financial assurance.

We recognize and appreciate the considerable amount of work the EFAB expended on this report, and will be taking its recommendations under advisement. The Agency is currently developing financial responsibility rules under Section 108(b) of the Comprehensive Environmental Response, Liability, and Compensation Act (CERCLA). The Charge specifically states that EFAB limited its evaluation to financial assurance as provided under the Resource Conservation and Recovery Act (RCRA). However, since many of the same questions concerning commercial insurance as a financial assurance tool will arise in developing the CERCLA 108(b) rules, we plan to also consider these recommendations in developing these rules.

We appreciate this valuable report from the EFAB. If you have questions, please contact me, or your staff may contact Jim Berlow, in OSWER's Office of Resource Conservation and Recovery, at 703-308-8404.

Comments of the Edison Electric Institute on the draft financial responsibility guidance for the UIC Class VI Program

Dear Sir or Madam –

Attached, please find the Edison Electric Institute's comments to the draft financial responsibility guidance referenced above. Please do not hesitate to contact me should you have any questions or concerns.

Thank you,

Vickie Calderón
Legal Assistant
Office of the General Counsel
Edison Electric Institute
701 Pennsylvania Avenue, NW
Washington, DC 20004

701 Pennsylvania Avenue, N.W. | Washington, D.C. 20004-2696 | 202.508.5000 | www.eei.org

Power by Association℠

Edison Electric Institute

February 8, 2011

Submitted via E-mail to GSRuleGuidanceComments@epa.gov

Subject: *Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance* (December 2010)

Dear Sir or Madam:

The Edison Electric Institute (EEI) submits the attached comments on the draft financial responsibility guidance (Draft Guidance) for the Underground Injection Control (UIC) Class VI Program issued by the Environmental Protection Agency (EPA) in December 2010 (EPA 816-D-10-010). The revised Guidance will complement EPA's final rule for the Federal Requirements under the UIC Program for Carbon Dioxide Geologic Sequestration Wells. *See* 75 *Fed. Reg.* 77230 (Dec. 10, 2010).

EEI is the association of shareholder-owned electric companies, international affiliates and industry associates worldwide. Our U.S. members serve 95 percent of the ultimate customers in the shareholder-owned segment of the industry, and represent approximately 70 percent of the U.S. electric power industry. Many of our members are actively involved in the research, development, demonstration and deployment of technologies to capture carbon dioxide from electricity production and inject it into geologic formations for long-term storage, activities covered by the draft Guidance. Carbon capture and storage is a critical element in the full portfolio of options and measures to reduce greenhouse gas emissions.

EEI appreciates the opportunity to provide comments. Questions may be directed to Emily Fisher [redacted] or Dr. Karen Obenshain [redacted]

Sincerely,

Emily S Fisher

Emily Sanford Fisher
Director, Legal Affairs, Energy & Environment

Attachment

COMMENTS OF EDISON ELECTRIC INSTITUTE ON THE ENVIRONMENTAL PROTECTION AGENCY'S DRAFT FINANCIAL RESPONSIBILITY GUIDANCE UNDER THE UNDERGROUND INJECTION CONTROL CLASS VI PROGRAM

February 8, 2011

The Edison Electric Institute (EEI)[1] submits these comments on the draft financial responsibility guidance (Draft Guidance) for the Underground Injection Control (UIC) Class VI Program issued by the Environmental Protection Agency (EPA or Agency) in December 2010 (EPA 816-D-10-010). The revised Guidance will complement EPA's final rule for the Federal Requirements under the UIC Program for Carbon Dioxide Geologic Sequestration (GS) Wells. 75 *Fed. Reg*. 77230 (Dec. 10, 2010) (UIC Class VI Rule).[2]

EEI submitted comments to the Agency on October 15, 2009, on the Notice of Data Availability (NODA) and Request for Comment related to the Agency's proposed regulations for injection and geologic storage (GS) of carbon dioxide (CO_2) under the authority of the Safe Drinking Water Act (SDWA) UIC program, issued in July 2008 in Docket No. EPA-HQ-OW-2008-0290, 73 *Fed. Reg.* 43491 (July 25, 2008). EEI also submitted pre-rulemaking comments to the Agency on May 15, 2008; provided oral and

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[1] EEI is the national association of shareholder-owned electric utilities in the U.S. Our members represent about 70 percent of the U.S. electric power industry and serve 95 percent of the ultimate customers in the industry's investor-owned segment.

[2] Comments were due on January 9, 2011, but EPA extended the deadline 30 days via an e-mail from Bruce Kobelski, Acting Protection Branch Chief, dated January 7, 2011. EEI participated in the request for extension and appreciate the additional time for comment.

written testimony at EPA's September 30, 2008, public meeting on the proposed rules; and submitted written comments on December 24, 2008. EEI provided testimony at the public hearing on the NODA on September 17, 2009, and participated in the development of the proposed rule via webinars held in April and May 2009. These comments and testimony are incorporated by reference herein.

I. Executive Summary

The Draft Guidance appropriately recognizes that an array of financial tools may be needed to address the different obligations inherent in the distinct phases of a GS project, the varying levels of risk associated with differing geologic formations, and the different financial situations and corporate structures of different owners and operators of GS projects. Incorporating flexibility and choice into the Draft Guidance protects drinking water resources while minimizing the costs of CCS.

EPA should revise the Draft Guidance, consistent with comments received from stakeholders, to further clarify the financial responsibility requirements for GS projects subject to the Class VI UIC Rule and other projects that engage in long-term sequestration of CO_2. Revised Guidance should ensure that the full array of financial tools is both available and affordable.

Specifically, revised Guidance should be consistent with the requirements of the UIC Class VI Rule, which clearly outlines which costs must be addressed by financial assurance, and should not require that additional expenses, including undefined "unexpected costs," also be covered. Revised Guidance also should recognize that owners and operators may be released from financial responsibility requirements for completed phases of GS projects before site closure.

Revised guidance should ensure all options, including self-insurance, are both affordable and available in all GS phases, where appropriate showings of financial fitness have been made. With respect to self-insurance, revised Guidance should not foreclose this option by imposing more stringent financial tests than in other UIC or environmental rules. In addition, revised Guidance should recognize that any model instruments provided are examples only and should not require that parties enter into identical agreements in order to gain Director approval. Parties should be able to negotiate the terms, conditions and costs of these agreements, consistent with the UIC Class VI Rule, without EPA involvement.

Finally, revised Guidance should provide additional clarity on the status of state liability programs and the interaction of the Guidance and GS activities covered by UIC Class II rules.

II. Introduction

As EEI has stated previously, addressing climate change concerns requires a full commitment to research, development, demonstration and commercial deployment of carbon capture and storage (CCS) technologies. To put the need for this commitment in context, consider that in 2008 electricity generation was responsible for 34 percent of greenhouse gas emissions and 41 percent of CO_2 emissions in the U.S.[3] EIA projects that net electric demand will increase 30 percent by 2035, even after taking into account energy efficiency improvements.[4] EIA also projects that growing electricity demand and the expected retirement of 45 gigaWatts (GWs) of existing capacity will result in a demand for 250 GWs of new generation capacity between 2009 and 2035, 58 percent of which are expected to be fossil fuel-based.[5] Given this backdrop, the potential environmental benefits of CCS – in terms of avoided CO_2 emissions – are substantial. Consequently, CCS is a critical element in the full portfolio of options needed not only to reduce CO_2 emissions, but also to ensure continued affordable and reliable electric service to customers throughout the U.S.

EEI thus supports the development of clear, defensible and appropriately tailored regulatory regimes that will facilitate development of and investment in CCS technology and projects while protecting against potential environmental risks.

A key part of any CCS regulatory regime is the establishment of appropriate financial responsibility mechanisms to backstop core regulatory requirements such as the UIC Class VI Rule. While the Draft Guidance is not binding, it will undoubtedly influence how program directors assess the sufficiency and appropriateness of proposed financial assurance instruments. Reflecting our comments in the revised Guidance will serve to

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3 Department of Energy, Energy Information Administration (EIA), Annual Energy Outlook 2010 With Projections to 2035 82 (Apr. 2010), *available at* http://www.eia.doe.gov/oiaf/aeo/pdf/0383(2010).pdf.

4 *See id*. at 65.

5 *See id.* at 67.

further clarify the financial responsibilities related to CCS and, therefore, increase the likelihood that this important carbon mitigation technology will be further commercialized in the years ahead.

III. Specific Comments

A. <u>The Purpose of the Guidance Should Be Consistent with Statutory Requirements of the UIC Program</u>.

The Draft Guidance's Executive Summary includes the following two-sentence statement of purpose:

> Financial responsibility requirements are designed to ensure that owners or operators have the resources to carry out required GS activities related to closing and remediating GS sites if needed, during injection or after wells are plugged, so that they do not endanger Underground Sources of Drinking Water (USDWs). These requirements are also designed to ensure that the **private costs** of GS are not passed along to the public.

P. i (emphasis added). This statement of the purpose of financial responsibility requirements is not consistent with the preamble to the Class VI UIC rule, which states:

> The purpose of these financial responsibility requirements is to ensure that owners or operators have the resources to carry out activities related to closing and remediating GS sites if needed during injection or after wells are plugged but before site closure is approved so that they do not endanger USDWs. The end result is ensuring that all the GS injection sites are cared for and maintained appropriately and that there is no gap in coverage throughout injection and post-injection site care and site closure.

75 *Fed. Reg*. 77230, 77268 (Dec. 10, 2010); *see also* 40 C.F.R. § 146.85. Specifically, the Draft Guidance refers to "private costs," a term that is neither defined in the Draft Guidance nor used in the preamble to the UIC Class VI Rule. Reference to these undefined "private costs" in the Draft Guidance's description of the purpose of the

financial responsibility requirements is confusing and could imply a potential expansion of the financial obligations of Class VI permit holders.

Moreover, to the extent that CCS is used to address emissions from power generation, some costs associated with GS appropriately may be borne by the public via increased retail electricity rates. EPA should not prejudge the outcome of rate cases adjudicated by state economic regulators in its Guidance. In revised Guidance, EPA should remove any references to "private costs," consistent with the UIC Class VI Rule.

B. References to "Unexpected Costs" Should Be Struck.

The Draft Guidance states that "[u]nder the rule, owners or operators select financial coverage options from a list of qualified independent third-party instruments or self-assurance to cover the expected **and unexpected costs of GS projects**." Draft Guidance at p. i (emphasis added). This is not an accurate statement of what costs are to be covered by financial responsibility requirements. The UIC Class VI Rule states that "qualifying instrument(s)" must be sufficient to cover the costs of corrective action; injection well plugging; post-injection site care (PISC); and emergency and remedial response. 40 C.F.R. § 146.85(a)(2). There is no reference to "unexpected costs" in the regulations or in the UIC Class VI Rule preamble. EPA cannot appropriately expand the scope of activities to be covered by financial responsibility instruments in an informal guidance document.[6]

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[6] If EPA were to expand the scope of activities to be covered to include "unexpected costs," the Agency would need to provide guidance as to how those costs should be estimated. The current Draft Guidance does not address this issue.

Accordingly, EPA's reference to "unexpected costs" is not appropriate in the Draft Guidance. In revised Guidance, EPA should strike all references to "unexpected costs" and clarify that the costs that must be covered by financial responsibility instruments are those listed in 40 C.F.R. § 146.85(a)(2).

C. <u>EPA Should Clarify that Owners and Operators May Be Released from Responsibility for a Particular Phase of a GS Project Before Site Closure.</u>

EPA states that Director may release the owner or operator of a GS project from the obligation to maintain adequate financial assurance for the project "within 60 days of receiving certifications…that everything has been accomplished in accordance with the post injection site care and site closure plan" Draft Guidance at 42. This restatement of the requirements of 40 C.F.R. § 146.85 fails to mention that owners and operators may be released from financial responsibility obligations for specific phases of a GS project before site closure. In revised Guidance, EPA should explicitly recognize the provisions of 40 C.F.R. § 146.85(b)(2)(ii), which state that the owner or operator may be released from a financial instrument when "the owner or operator has completed the phase of the geologic sequestration project for which the financial instrument was required and has fulfilled all its financial obligations..."

D. <u>EPA's Changes to the Financial Test for Self-Insurance, which Were Not Subject to Notice and Comment, May Foreclose This Option for Many Companies and Should Be Modified.</u>

In order to use self-insurance to meet financial assurance obligations, the final UIC Class VI Rule requires that "the owner or operator must...have a net working capital **and** tangible net worth each at least six times the sum of the current well plugging, post injection site care and site closure cost..." 40 C.F.R. § 146.85(a)(6)(v) (emphasis added). The Preamble to the final UIC Class VI Rule further states that an owner/operator using the self-insurance test must have "both a net working capital **and** a tangible net worth of at least six times" the costs required to be covered by the financial test. *See* 75 *Fed. Reg*. 77295 (emphasis added).

In other regulations establishing the self-insurance option for meeting financial assurance requirements under the UIC program and the federal Resource Conservation and Recovery Act (RCRA), EPA has always provided two alternatives. *See, e.g*., 40 C.F.R. § 143.63(f) and §264.143(f). The first alternative required demonstration of net working capital **and** tangible net worth of at least six times the amount to be covered, in addition to meeting specified financial ratio thresholds (Alternative I). The second alternative required meeting the six times tangible net worth criterion and a specified bond rating criterion **<u>but not</u>** a net working capital requirement (Alternative II). EPA has provided Alternative II in recognition that a financially healthy company may not be able to demonstrate sufficient net working capital because current liabilities exceed current assets on the balance sheet, but that other measures provide sufficient evidence of financial well-being. Eliminating Alternative II would create a substantially more stringent financial test for self-insurance for Class VI wells than for any other UIC well class, which few companies may be able to satisfy.

Confusingly, despite the explicit language in the final UIC Class VI Rule regarding the need to demonstrate both the tangible net worth and net working capital in order to meet the financial test for self-insurance, the model Chief Financial Officer (CFO) letter provided in the Draft Guidance incorporates Alternative II's bond rating test as an option, requiring a demonstration of sufficient tangible net worth, but no requirement for net working capital. *See* Draft Guidance, Appendix B.

Consistent with past practice and the language of the model CFO letter in the Draft Guidance, EPA should either revise the Draft Guidance and modify the wording in §146.85(a)(6)(v), or provide an interpretation of that provision clarifying that both the net working capital and tangible net worth criteria have to be met only when the facility owner/operator is relying on Alternative I of the financial test.

Further, this would be help ameliorate EPA's failure to provide proper notice and an opportunity to comment on the final §146.85(a)(6)(v) requirement that all Class VI facilities satisfy both the working capital **and** tangible net worth criteria in order to pass the financial test for self-insurance, with no option of using Alternative II. This change in practice was not included in the proposed UIC Class VI Rule. *See* 73 *Fed. Reg*. 43492 (July 25, 2008). Instead, in the proposed UIC Class VI Rule, the Agency stated that "EPA plans to develop guidance that is similar to current UIC financial responsibility guidance for Class II owners and operators." *Id.* at 43521. The referenced guidance for Class II wells specifically authorizes Alternative II, without any reference to requiring meeting a specified "net working capital" criterion. Therefore, the referenced Class II guidance not only gave no indication that EPA was adopting a considerably more stringent self-insurance test for Class VI facilities, but also affirmatively created the impression that the Class VI self-insurance requirements would be very similar to those required for Class II and Class I UIC wells.

E. <u>Self-Insurance Should Be an Option in the PISC Period</u>.

EPA recommends that self-insurance not be permitted as a financial responsibility instrument in the PISC period "because it generally cannot ensure that resources will be available over the long-term." Draft Guidance at 49. This recommendation, which unnecessarily limits the ability of an owner or operator to use self-insurance, appears to be predicated on concerns about the length of the PISC period, for which the UIC Class VI Rule uses a 50-year default. *See* 40 C.F.R. § 146.93(b)(1). Concerns about the length of the PISC period, however, have no relationship to the financial stability of the owner and operator, the key factor in assessing whether self-insurance is sufficient to meet financial assurance obligations. The owner or operator of a Class VI well has a **current** obligation to provide financial responsibility for the projected future costs in the PISC period. A current determination of company's ability to meet the financial test for self-insurance can be made immediately, at the time of permit application. Furthermore, the continuing appropriateness of self-insurance as financial assurance in the PISC period will be reviewed by the Director on annual basis, as required by 40 C.F.R. § 146.85(a)(5)(iii).

Moreover, given EPA's acknowledgement that insurance is unlikely to be offered for the PISC period (*see* Draft Guidance at 26), EPA should not further limit options for meeting PISC period financial assurance obligations. Accordingly, an owner or operator should be allowed the opportunity to demonstrate, via a financial test, that it can self-insure costs in the PISC period. EPA should not foreclose this opportunity by recommending against self-insurance, and should revise the Draft Guidance to allow the Director to make case-by-case determinations of the appropriateness of self-insurance in the PISC period.

F. **The Draft Guidance Should Not Be Biased Against Self-Insurance.**

EPA expresses the opinion that "self-insurance poses the highest risk to the public." Draft Guidance at 49. While self-insurance may not be appropriate for all owners and operators for all phases of a storage project, such language creates unnecessary hurdles to utilizing this compliance option by biasing the Director against this tool. The financial information provided in support of a request to use self-insurance is based on independently audited, publicly available information submitted to the Securities and Exchange Commission. Further, the minimum tangible net worth required to pass the financial test is $100 million, ensuring that only those companies capable of meeting their obligations under the UIC Class VI Rule can opt to use self-insurance.

G. **EPA Should Clarify that Model Language for Financial Instruments is Meant to Be Instructive, Not Binding**.

In Appendix B, EPA provides "Recommended Financial Responsibility Language for Class VI GS Wells." Draft Guidance pp. 62-89. The model instruments provided include trust agreements, bonds, irrevocable letters of credits, certificates of insurance, letters from CFOs and corporate guarantees, among others. While model language may be useful, the UIC Class VI rule does not require that specific language be included in these instruments in order to be deemed acceptable financial assurance. That determination is left up to the discretion of the Director. Moreover, to the extent that any instrument is offered by a third party (*e.g.*, bonds, trusts and insurance), any such requirement impermissibly would inject EPA into the negotiations between the owner/operator of the Class VI well and the third party. The negotiation of the terms of these instruments – and their costs – should be left to the parties.

This is of particular concern when the model instruments address issues that are not governed by the Class VI Rule. For example, section 18 of the model trust agreement would require the owner/operator to indemnify the trustee. This is not required by UIC Class VI Rule, and is a term that would be negotiated and agreed upon by the parties to the trust agreement.

In the case of insurance, dictating the terms of policies may make insurance providers less willing to offer products that cover the various phases of a CCS project or may serve to drive up their costs. To the extent that the Director has final approval over whether a specific insurance policy provides adequate financial assurance, EPA should leave all other terms to the negotiations of the parties.

EPA should either remove the model language in Appendix B or modify the model instruments such that they cover only the requirements specified in 40 C.F.R. § 146.85(a)(2)-(4). In the alternative, EPA's revised Guidance should clearly state that failure to conform exactly to the model instruments provided in Appendix B is not, in and of itself, a reason to reject an instrument tendered to satisfy financial insurance obligations.

H. Corporate Guarantees Should Not Be Limited by Requirements Not In the Final UIC Class VI Rule.

In describing corporate guarantees, EPA notes that "the Director can allow the corporate guarantee if it is issued by a parent company that owns a least 50 percent of the subsidiary's voting stock, and has been in business for at least 5 years." Draft Guidance at 21. The final UIC Class VI Rule does not restrict corporate guarantees by the ownership or age of the parent company. EPA should not mandate that the Director reject corporate guarantees that fail to meet these criteria. Any restrictions not required by the final UIC Class VI Rule will unnecessarily limit the financial assurance options available to owners and operators. The Draft Guidance should be revised to leave the determination of the sufficiency of the corporate guarantee to the discretion of the Director.

I. EPA Should Clarify the Relationship, if any, between Financial Responsibility under the Class VI UIC Rule and State Mechanisms such as Trust Funds that Address the Post-closure Stewardship Phase of GS Site Operations.

The Draft Guidance indicates that the line between the end of the post-injection monitoring phase and the beginning of the post-closure stewardship phase is fuzzy, not bright.

The preamble to the UIC Class VI Rule makes clear that in some cases enforcement actions may be taken during the post-closure stewardship phase of GS site operations, as follows: 1) EPA may issue an order under the SDWA if a well may "present an imminent and substantial endangerment to the health of persons, and the State and local authorities have not acted to protect the health of such persons"; and 2) "after site closure, an owner or operator may, depending on the fact scenario, remain liable under tort and other remedies including, but not limited to," the federal Clean Air Act; the federal Comprehensive Environmental Response, Compensation, and Liability Act; and RCRA.[7] 75 *Fed. Reg*. at 77272.

The Draft Guidance makes the same point:

> Although the owners and operators are not required to demonstrate financial responsibility after [PISC] has ended, owners and operators are still financially liable for the site. [The] Safe Drinking Water Act does not provide [EPA] with authority to indefinitely release owners or operators from long-term responsibility for potential impacts to USDWs after the [PISC] period has ended (e.g., for unanticipated migration that endangers a USDW). Under current SDWA provisions EPA does not have authority to transfer liability from one entity to another.

P. 9. EPA should ensure that the revised Guidance emphasizes that financial responsibility under the UIC Class VI Rule terminates at the beginning of the post-closure stewardship phase of GS site operations. The revised Guidance should also acknowledge that while it is true that owners and operators may remain liability for specific statutory and tort claims in the post-closure stewardship phase, several states have enacted laws that provide for the creation of industry-funded trust funds (or similar mechanisms) that are specifically designed to apply during this period.[8]

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[7] EPA has stated that it intends to propose in 2011 a conditional exemption from RCRA for certain CO_2 injectates.

[8] *See, e.g*., Kansas H.B. 2419 (2007) (creating CO_2 injection well and underground storage fund); Montana S.B. No. 498, § 4(7)(a) (2009) ("if the geologic storage operator has title to the geologic storage reservoir and the stored carbon dioxide, the geologic storage operator may transfer title to the geologic storage reservoir and to the stored carbon dioxide to the state"); Louisiana H.B. 661, § 1110 (2009) (creating CO_2 geologic storage trust fund); North Dakota S.B. 2095, §§ 38-22-15, 38-22-16, 38-22-17 (2009) (providing for CO_2 trust fund, title to CO_2 and release/transfer of title/custody); and Wyoming H.B. 17, § 35-11-318(b) (2010) (creating Wyoming geologic sequestration

J. **EPA Should Clarify if and when Financial Responsibility Instruments Are Needed to Address Concurrent Enhanced Oil Recovery/Sequestration Operations under Class II**.

The UIC Class VI Rule states that sequestration may occur in Class II wells unless "there is an increased risk to USDWs compared to Class II operations" based upon application of risk factors specified in 40 C.F.R. § 144.19(b). *See also* 75 Fed. Reg. at 77245. The UIC Class VI Rule clearly envisions a scenario in which a Class II operation conducts concurrent enhanced oil recovery (EOR)/sequestration without transitioning to Class VI.

The Draft Guidance, however, seems to only envision a scenario under which Class II operations that are concurrently conducting sequestration are "transitioning" to Class VI. EPA states that financial responsibility for activities for well plugging is also needed for "existing CO_2 injection wells transitioning from Class I, II or V injection activities to Class VI GS." Draft Guidance at p. 4.[9]

Thus, the revised Guidance should explain that Class VI financial responsibility also applies to Class II wells that are conducting concurrent sequestration without triggering Class VI requirements by abiding with the USDW risk factors specified in 40 C.F.R. § 144.19(b).

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special revenue account "to measure, monitor and verify Wyoming geologic sequestration sites following site closure certification, release of all financial assurance instruments and termination of the permit"),

[9] Confusingly, however, the relevant UIC Class VI Rule provision on this point is entitled "Transitioning from Class II to Class VI."

EPA also should clarify the relationship of state-based orphaned and abandoned well funds, on the one hand, and financial responsibility under the UIC Class VI Rule on the other. If EOR operators under Class II are conducting concurrent sequestration, they may find themselves paying twice – once into a state orphaned and abandoned well fund, and again for sequestration financial responsibility – to address the same or similar contingency. This may be a legitimate outcome where state orphaned and abandoned well funds serve a different purpose than Class VI financial responsibility does. The Draft Guidance is ambiguous on this point, so clarification would be helpful.

Comments of the CCS Alliance

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Attached please find the comments of the CCS Alliance regarding EPA's Financial Responsibility Guidance for Class VI UIC wells. If you have any questions, please contact Fred Eames at 202/778-2245. Thank you.
(See attached file: DOC.PDF)

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February 8, 2011

FILE NO: 73350.000002

Ms. Ann M. Codrington
Director, Drinking Water Protection Division
Office of Ground Water and Drinking Water
1200 Pennsylvania Avenue, N.W. (MC-4607M)
Washington, D.C. 20460

Dear Director Codrington:

This filing provides the comments of the CCS Alliance on the U.S. Environmental Protection Agency's (EPA) draft Financial Responsibility Guidance for Class VI Underground Injection Control (UIC) program wells. We thank EPA for the extension of the comment filing period, which has enabled us and others to provide additional consideration to issues presented in the proposed guidance.

The CCS Alliance submitted comments on December 22, 2008 in docket EPA-HQ-OW-2008-0390 regarding the EPA's then proposed UIC rule for carbon dioxide geologic sequestration wells. Those comments included a special focus on risk management for geologic sequestration. We emphasized two fundamental financial assurance issues that are applicable in the context of this guidance: authorize use of a broad array of instruments, and ensure that risk management can be achieved in a manner that is economically efficient.

EPA's final Class VI rule and the draft financial responsibility guidance address the first issue well by authorizing a broad array of risk management instruments. As to the second issue, the guidance makes reference to EPA's intent that financial assurance be economically efficient. However, we believe the guidance recommends certain conditions, discussed below, that will frustrate that goal. It should be revised consistent with the suggestions below.

Importance of CCS

If our country is to make significant reductions in greenhouse gas emissions, carbon capture and sequestration (CCS) is an essential technology. Fossil fuels, combustion of which accounts for the overwhelming majority of anthropogenic carbon dioxide emissions, and which will remain a key component of our energy supply, account for roughly 75 percent of U.S.

electricity production and are the primary energy source for basic commodity manufacturing, such as steel and cement.

Even though geologic sequestration has yet to be used in the U.S. on a commercial scale, environmental regulatory objectives are assigning increasing importance to CCS. For example, EPA's GHG BACT guidance, issued last fall, states that "For the purposes of a BACT analysis for GHGs, EPA classifies CCS as an add-on pollution control technology that is 'available' for large scale CO2-emitting facilities including fossil fuel-fired power plants . . . ."[1] This will result in CCS being evaluated as an option for facilities required to control GHG emissions. EPA has under consideration a significant number of proposed regulations that could result in modifications of existing fossil-fueled electric generating facilities that would subject those facilities to GHG controls.

The significance is that policy shifts are making CCS an increasingly relevant policy issue, and perhaps ultimately an indispensable technology. This regulatory confluence means a very significant set of public interests are at stake in devising an appropriate risk management regime.

Availability, Affordability, and the Notion of a "Guarantee"

Financial responsibility obligations are an ingrained feature of environmental regulatory programs. It is appropriate for the government, as a feature of regulations to ensure that industrial activity neither impermissibly affects human health or the environment nor places taxpayers at risk, to require that financial resources be in place to guard against certain risks.

There is a tension between the government's desire for the greatest possible certainty that taxpayers will not face risk and its interest in ensuring available, affordable risk management instruments. In the name of reducing financial risk to the public, tightened financial responsibility regulations have sometimes errantly deterred the activity that is the subject of the regulation. Given the range of essential human services that depend on fossil fuel combustion - such as electricity, heat, and transportation - trial and error with the rules for CO2 sequestration could have dire consequences.

As an example of past problems, note that overly burdensome regulatory requirements played a significant part in the mining industry's difficulty within the past decade in obtaining

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[1] "PSD and Title V Permitting Guidance for Greenhouse Gases," p. 33-34, U.S. Environmental Protection Agency, Office of Air and Radiation, November 2010.

surety bonds for hardrock mining reclamation, a context with certain features (such as need for instruments of potentially long duration) similar to those of geologic sequestration:

> [A]gencies increasingly have focused on the sufficiency of bond amounts in the context of extremely long-term risks, such as the potential for water treatment, with the regulators concerned that issues may arise decades or centuries after mine reclamation has been completed. . . . [T]he increased bond amounts are often implemented regardless of actual risk projections. The corresponding requirements can create financial guarantee obligations spanning a hundred years or more. Hundred-fold increases in bond amounts by state and federal agencies are not atypical. An increase of that magnitude may not be affordable and contributes to a company's inability to obtain surety.[2]

We appreciate EPA's recognition that cost is a significant issue, which is evident from the thoroughness with which EPA has discussed cost in the guidance.[3] Again, we emphasize cost can turn into an issue of instrument availability, not just price.

EPA's guidance should better encourage regulators to balance the interest of "minimizing the potential risk of instrument failure and the potential costs to the public" with the potential costs to the public of not having CCS reasonably available as an option in the future.[4] The guidance describes the success of a financial responsibility program as follows:

> A successful financial responsibility demonstration will likely establish instruments that are aimed to protect USDWs and that guarantee the owner or operator will pay if coverage is needed for financial responsibility activities and ensure that no costs for GS projects will be passed on to the public.[5]

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[2] "Mining and the Vanishing Surety Bond Market," Lisa Kirschner and Edward B. Grandy, Natural Resources & Environment, Winter 2003, Volume 17, Number 3.

[3] EPA devotes nearly a full page to discussion of costs on p. 23 of the draft guidance.

[4] Proposed guidance, p. 51.

[5] Id.

A program with no geologic sequestration projects will pose no risk of groundwater cleanup costs to the public. However, this would be manifestly contrary to the objectives of the Administration. EPA should insert a statement recognizing that success from a public policy perspective also depends upon implementation that encourages parties to deploy a technology that the Obama Administration, its predecessor, key leaders in the House and Senate, and many others have been laboring to promote.

Director Approval

EPA's final Class VI UIC rule requires that corrective action and post-injection site care not only comply with certain provisions of the rule, but also that it be "acceptable to the Director."[6] This language is unclear and suggests the possibility that the regulator could impose obligations beyond the regulations of unknown scope and nature and for which there may not be prior warning. This is an area in which the regulation should be amended, but at a minimum, this is important area on which the guidance should provide direction.

Read in the most favorable light, we could presume that EPA intends that these "Director approval" provisions reflect either the obvious point that routine disagreements may arise over compliance and that the Director decides as the implementing entity when the requirements are met, or that State agencies that have been approved for primacy may have regulations more stringent than the federal UIC regulations, or both. However, both of these points are implicit in the regulatory structure and need no explicit provision to fulfill them. The Director approval provisions therefore serve only to confuse matters and suggest some additional power is intended.

The exercise of some additional undefined power through Director approval not only could pose an unfair circumstance both for entities that decide to self-insure, as well as those who manage their risks through third-party instruments, but at worse could discourage parties from pursuing CCS or could make third-party instruments less available or considerably more difficult to obtain. No party wants to undertake obligations that are largely at the whim of a regulator to define after the fact. It undermines the ability to make the calculations on which risk management instruments are based.

Although the Director approval language was present in the proposed rule, it is considerably more troubling in light of the significant changes between financial responsibility

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[6] *See* 40 CFR 146.84(b) and 40 CFR 146.93(a).

requirements in the proposed and final rules. This issue is most acute in the case of insurance, which we will discuss below.

The CCS Alliance offers the following comments on EPA's recommendations for specific financial responsibility instruments.

Financial Responsibility Instruments

As a general matter, we concur with EPA's commentary that each risk management instrument has features that make it more or less attractive under certain circumstances. EPA's draft guidance performs an appropriate role in pointing out these features without (as a general matter) proscribing the use of certain instruments in situations where another instrument might offer advantages to the facility operator. Flexibility allows instruments to compete and the market to evolve.

With respect to several of the instruments below, we note that EPA recommends conditions that in the name of more fully protecting the government from potential expense will make financial assurance instruments more expensive. A result of this may be that smaller and less well-capitalized entities may be disadvantaged in undertaking CCS projects. EPA may have reason to prefer that outcome, but we note that it may prove disadvantageous to rural electric cooperatives and other small entities who have a responsibility to serve customers.

Trust Funds - As the guidance notes, 40 CFR 146.85(f) requires that the Director approve the use and length of pay-in periods for trust funds. The guidance recommends, but does not require, a three-year pay-in period for trust funds. We suggest that a less restrictive construct might make trust funds better available for use.

There appears to be no reason why a trust fund could not be authorized to meet whatever portion of a financial assurance obligation the trust fund is capitalized to meet. As the amount in the trust fund grows, the credit the trust fund is accorded in meeting the financial responsibility obligation can grow along with it. Since trust fund holdings are likely to be in constant flux, we suggest that an operator could provide evidence annually of the minimum amount expected to be in the fund in the coming year. Under such a regime, a minimum pay-in period is not necessary.

Letters of Credit - The guidance recommends that letters of credit may be cancelled only if the Director has consented in writing. Though this is a typical practice under other financial assurance regimes, it makes letters of credit more costly.

The guidance recommends that:

A program with no geologic sequestration projects will pose no risk of groundwater cleanup costs to the public. However, this would be manifestly contrary to the objectives of the Administration. EPA should insert a statement recognizing that success from a public policy perspective also depends upon implementation that encourages parties to deploy a technology that the Obama Administration, its predecessor, key leaders in the House and Senate, and many others have been laboring to promote.

Director Approval

EPA's final Class VI UIC rule requires that corrective action and post-injection site care not only comply with certain provisions of the rule, but also that it be "acceptable to the Director."[6] This language is unclear and suggests the possibility that the regulator could impose obligations beyond the regulations of unknown scope and nature and for which there may not be prior warning. This is an area in which the regulation should be amended, but at a minimum, this is important area on which the guidance should provide direction.

Read in the most favorable light, we could presume that EPA intends that these "Director approval" provisions reflect either the obvious point that routine disagreements may arise over compliance and that the Director decides as the implementing entity when the requirements are met, or that State agencies that have been approved for primacy may have regulations more stringent than the federal UIC regulations, or both. However, both of these points are implicit in the regulatory structure and need no explicit provision to fulfill them. The Director approval provisions therefore serve only to confuse matters and suggest some additional power is intended.

The exercise of some additional undefined power through Director approval not only could pose an unfair circumstance both for entities that decide to self-insure, as well as those who manage their risks through third-party instruments, but at worse could discourage parties from pursuing CCS or could make third-party instruments less available or considerably more difficult to obtain. No party wants to undertake obligations that are largely at the whim of a regulator to define after the fact. It undermines the ability to make the calculations on which risk management instruments are based.

Although the Director approval language was present in the proposed rule, it is considerably more troubling in light of the significant changes between financial responsibility

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[6] *See* 40 CFR 146.84(b) and 40 CFR 146.93(a).

Insurance - The combination of several provisions in the guidance and regulations presents not only the issue of cost discussed above with respect to surety bonds and letters of credit, but possibly whether policies would be available at all under the conditions recommended.

As with letters of credit and surety bonds, EPA recommends, through a draft model certificate of insurance, that the instrument be cancellable "only for failure to pay the premium."[9] However, the model certificate also states that the insurer "warrants that such policy conforms in all respects with the requirements" of the Class VI regulations for corrective action, plugging, post injection site care and closure, or emergency and remedial response (as the case may be). It further states "It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency."[10]

We understand that some States, starting with California, have adopted similar requirements. Such requirements may limit the flexibility of the parties to cover some fortuities through insurance and other matters through other instruments.

In conjunction with the "Director approval" provisions in the regulations, discussed above, the non-cancellation, conformity and consistency provisions of the model insurance certificate raise an even more troubling problem. These recommendations, if implemented together with the Class VI requirements, imply that the only insurance agreement that should be approved is a non-cancellable one under which the insurer is liable for whatever the Director determines it should be liable for, regardless of what the agreement itself specifies. This likely will limit the availability of insurance and increase its cost.

We do not believe these restrictive provisions are necessary or appropriate for inclusion in the guidance. EPA obviously disagrees. We recommend that the agency seek additional advice after conclusion of the comment period from offerors of third-party insurance instruments and alert regulators to the problems of implementing the guidance EPA suggests.

Conclusion

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[9] Id, p. 78.

[10] Id.

In conclusion, we appreciate the opportunity to offer these comments and offer our availability to discuss them with the agency at its convenience.

Sincerely,

Fred Eames

Fred Eames
for the CCS Alliance

C12 Energy Comments on Draft Financial Responsibility Guidance

Please find attached the comments of C12 Energy on the Draft Financial Responsibility Guidance for CO2 Storage Projects.

Please feel free to call me at any time to discuss.

Kind regards,
barclay

Barclay Rogers
C12 Energy

C12 Energy

March 9, 2011

Joseph Tiago
1200 Pennsylvania Ave., NW
EPA East – Room 2118E-MC4606M
Washington, DC 20460

Re: UIC Class VI Program, Draft Financial Responsibility Guidance

Dear Joe,

C12 Energy is very interested in the financial assurance requirements under the recently finalized Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO_2) Geologic Sequestration (GS) Wells (*UIC Rules*).[1] As you know, we are currently attempting to satisfy the requirements for several commercial-scale CO_2 storage projects, and thus have direct experience in attempting to meet the requirements given the financial instruments available in the market. We appreciate the opportunity to provide the following comments on the Financial Responsibility Guidance – December 2010 – Draft (Draft Financial Responsibility Guidance).[2]

Statement of Support

C12 Energy strongly supports private responsibility for CO_2 projects, and recognizes the important role that financial assurance requirements play in providing sufficient funding to carry out the required activities to ensure safe storage of CO_2 over the life of a geologic sequestration project. We fully support the financial assurance requirements to the extent they:

- Require adequate funding to carry out specified activities at particular times;
- Are able to be satisfied with financial instruments currently available in the commercial market; and
- Recognize the economic principle of present value discounting.

We consider the financial assurance requirements in the UIC rules to meet these criteria. However, as discussed below, we are concerned that the Draft Financial Responsibility Guidance departs from these principles in ways that may make it infeasible to provide the assurances.

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[1] http://www.gpo.gov/fdsys/pkg/FR-2010-12-10/pdf/2010-29954.pdf (hereinafter UIC Rules). As you know, C12 Energy is the leading CO_2 storage project developer in the United States. To date, we have secured CO_2 storage rights to approximately 350,000 acres of privately-owned land with 13 projects in 10 different states, corresponding to approximately 10 billion tons of CO_2 storage capacity distributed throughout the nation. To put this in context, our sites are currently sufficient to permanently store CO_2 emissions from approximately 15% of the nation's fleet of coal plants for the next 30 years, and we're developing more capacity every day.

[2] http://water.epa.gov/type/groundwater/uic/class6/upload/uicclass6financialresponsibilityguidancedec2010.pdf

Present Value Discounting

The UIC Rules provide that:

(2) The qualifying instrument(s) must be sufficient to cover the cost of:
- (i) Corrective action (that meets the requirements of § 146.84)
- (ii) Injection well plugging (that meets the requirements of §146.92)
- (iii) Post injection site care and site closure (that meets the requirements of §146.93); and
- (iv) Emergency and remedial response (that meets the requirements of §146.94).[3]

Most of these events will happen in the future as opposed to the present. For example, well plugging will not occur until after carbon dioxide injections cease, which for a commercial project will likely be 30 years from the point the injections commence. Post injection site care and closure extends from the point injections cease (e.g., 30 years from commencement) for at least 50 years or for the duration of an approved alternative timeframe (e.g., up to 80 years from commencement).

Present value discounting is a widely used technique to understand the present day value (or cost) of a future event. For example, one would need to invest $38.55 today at an interest rate of 10% to meet a $100 cost in 10 years from the present.[4] If it would cost $150,000 to plug a carbon injection well in 30 years, one would need to invest $8,596 today at a rate of 10% to satisfy these costs.

The Draft Financial Responsibility Guidance does not mention present value discounting.[5] We strongly suggest that the Guidance be amended to provide for present value discounting. We recommend that the Guidance specify a methodology for discounting to ensure consistent and appropriate discounting techniques.

Trust Funds: Pay-In Periods and Interest Accumulation

The UIC Rules provide that:

(1) The qualifying instrument(s) used must be from the following list of qualifying instruments.
- (i) Trust funds
- (ii) Surety Bonds
- (iii) Letter of Credit
- (iv) Insurance
- (v) Self Insurance (i.e., Financial Test and Corporate Guarantee)
- (vi) Escrow Account
- (vii) Any other instrument(s) satisfactory to the Director.

The UIC Rules are silent as to the pay-in period or interest accumulation in trust funds. However, the Draft Financial Responsibility Guidance recommends limiting the pay-in

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[3] See UIC Rules, 40 CFR §146.85(a)(2).

[4] The general formula for calculating present value is: $C_t = C(1+i)^{-t} = \frac{C}{(1+i)^t}$. See http://en.wikipedia.org/wiki/Present_value.

[5] The Draft Financial Responsibility Guidance does mention annuities which are a well-recognized form of present-value discounting that accounts for multiple payments in the future. See Draft Financial Responsibility Guidance, p. 26.

period to 3 years, and excludes the potential for interest accumulation as a way of building the trust fund – neither of which is required by the UIC Rules. As explained below, we recommend that the pay-in period be extended to the operating life CO_2 storage project (e.g., 20-30 years), and interest payments be recognized as an appropriate method for building the trust fund.

Pay-In Periods

The Draft Financial Responsibility Guidance "recommends that payments into trust funds be made annually by the owner or operator over a three-year period or over a period determined by the Director."[6]

We strongly suggest a default pay-in period of the operating life of the CO_2 storage project (at the very least 20 years) as a 3 year pay-in period is commercially infeasible. An example illustrates the difficulty with a 3-year pay-in period. A reasonable estimate to carry out post-injection site care and monitoring for a commercial-scale CO_2 storage project involving injection of 2.5 Mt-CO_2/year for the requisite 50-year period is approximately $20 million.[7] To accumulate $20 million over a 3-year period, one would have to set aside $6.67 million/year or $2.67/t-$CO_2$. Such large accumulations over a short period would increase the upfront project costs on the order of 20%-30%, and likely render commercial-scale CO_2 storage infeasible. Such large initial set-asides are also inconsistent with the general discussion around trust fund accumulation, which focuses on set-asides on the order of $0.10/t-$CO_2$.

Interest Accumulation

The Draft Financial Responsibility Guidance states that "[i]n the financial responsibility demonstration, the owner or operator is required to deposit the required amount of money into the trust prior to permitting or may have the option to exercise a 'pay-in period' specified by the Director."[8] The Guidance further states that:

> Trust funds will likely yield interest over time. This accrued interest can be reinvested to cover increases in the cost of materials and labor for GS activities due to inflation. Otherwise, at the discretion of the Director, interest payments can be paid to the owner or operator if the amount held in the fund exceeds the cost estimates of financial responsibility activities (assuming management fees due to the trustee have been paid).[9]

Consequently, according to the Draft Financial Responsibility Guidance, the entire anticipated expenses must be deposited in the trust fund initially (or over a short pay-in

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[6] Draft Financial Responsibility Guidance, p. 29.
[7] The $20 million figure represents an average estimate for site care and monitoring costs for a 50-year period, including injection well plugging and site restoration, annual monitoring costs, monitoring well plugging and site restoration. It does not include potential costs associated with emergency and remedial response as the events triggering these costs are highly uncertain, and are thus best addressed through insurance as opposed to some form of guaranteed payment at a future date (e.g., bond). The estimate assuming "low" costs is $11 million and assuming "high" costs is $33 million. These figures represent actual estimated costs with no discounting.
[8] Draft Financial Responsibility Guidance, p. 14.
[9] Draft Financial Responsibility Guidance, p. 15.

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period), and any interest accumulated on that money must either be used to cover cost increases associated with inflation or paid out to the CO_2 operator.

Such an approach would result in an extremely inefficient deployment of capital and thus make commercial-scale CO_2 storage infeasible. Capitalist economies rest on the principle that private companies can generate higher returns on investment relative to government bonds (thus, the cost of capital for private companies is higher than government bond yields). Government borrowing rests on the principle that the government will pay a higher return on bonds (i.e, loans to the government) than inflation (thus, government bond yields exceed projected inflation rates). If these principles were not true, neither the stock market nor the deficit could exist.

If a CO_2 storage operator or third party entity were required to deposit sufficient funds to cover the entirety of anticipated expenses in the trust fund initially, it would incur a serious yield penalty. The reason for this is that, given its purpose, the trust fund will need to have a low-risk investment approach, and consequently will yield returns similar to government bonds.[10] As noted above, these returns are much lower than the returns the private sector must achieve to survive.[11] Accordingly, it would be contrary to fundamental principles of economics to require a private entity to set aside large amounts of capital in instruments that by definition will have low-yield returns.

A much better approach is to allow the CO_2 storage operator or third party entity to deposit sufficient funds that, together with accumulated interest, are sufficient to cover the anticipated expenses at the time they are expected to occur.[12] Similar to present value discounting, the CO_2 storage operator should be required to deposit sufficient funds that will yield, together with the interest earned on the deposited funds, the anticipated expense at the time that expense is incurred.

The difference in approaches is illustrated through the following example. In each case below, $20 million would be available to carry out post-injection site care and monitoring from Year 30 to Year 80.

- If the CO_2 Storage Operator or private entity were required to deposit $20 million upfront, it would earn approximately $600,000/year in interest (assuming a 3% interest rate).[13] However, if the CO_2 Storage Operator were able to deploy these funds in the private sector, it would have enjoyed returns of $2,000,000/year (assuming a 10% yield rate).[14] Consequently, the CO_2 storage operator would

[10] A low risk investment approach is required under Section 6 of the Trust Agreement included as Appendix B(I) of the Draft Financial Assurance Guidance.

[11] It is irrelevant that the CO_2 storage operator may harvest interest rate payments from the trust fund under the Draft Financial Responsibility Guidance, as these returns are by definition lower than the CO_2 storage operator must achieve to survive in the private sector.

[12] This approach is identical to the present value discounting approach discussed above, assuming the trust fund interest rate and discounting rate are the same.

[13] The trust fund interest rate is assumed to equal the yield on long-term US Treasury Bills as this is considered the default yield for low-risk investment strategies.

[14] The private sector yield is assumed to equal the yield on the long-term performance of the Dow Jones Industrial Average as this is considered the default yield for private investment.

incur an annual 'penalty' of $1.4 million, corresponding to a total penalty of $112 million (assuming a 30 year project operating life and a 50 year monitoring period).

- If the CO_2 storage operator were required to deposit $8.5 million upfront into a trust fund earning a 3% interest rate, the trust fund would yield $20 million at Year 30. Following the same logic as above, the CO_2 storage operator would incur an annual 'penalty' of $600,000, corresponding to a total penalty of $48 million (assuming a 30 year project operating life and a 50 year monitoring period).
- If the CO_2 storage operator were required to deposit $215,000 each year for 20 years into a trust fund and the fund accumulated interest at a 3% interest rate, the trust fund would yield $20 million at Year 30. The CO_2 storage operator would incur an annual 'penalty' of $15,000, corresponding to a total penalty of $300,000 (assuming a 20 year pay-in).[15]

In each case, the same amount of money (i.e., $20 million) is available to perform the site care and monitoring activities when they occur (i.e., from Year 30 to Year 80).[16] However, the cost to the private sector is dramatically different with the approach outlined in the Draft Financial Responsibility Guidance resulting in a cost of $112 million to the private sector, while the latter approach results in a cost of $300,000. The current approach under the Draft Financial Responsibility Guidance would thus drastically increase the cost of compliance and likely render commercial-scale CO_2 storage infeasible.

We strongly encourage the EPA to review the financial assurance mechanisms for hazardous waste facilities under the Resource Conservation and Recovery Act (RCRA).[17] It's worth noting that the RCRA financial assurance guidelines expressly authorize the use of pay-in periods for the operating life of the facility.[18] It also appears that the RCRA requirements allow for the accumulation of interest as a means for building the trust fund.

[15] If EPA were concerned about the effects of inflation on site care and monitoring costs, it could incorporate the Federal Reserve's target inflation rate into the cost estimating procedures to require sufficient funds to cover the anticipated costs adjusted for inflation. Doing so would essentially reduce the trust fund interest rate (3%) by the target inflation rate (e.g., 1.7%), such that the trust fund would accumulate interest at an effective rate of 1.3%. If EPA were to do so, the annual contribution amount would increase to $270,000 from $215,000. The CO_2 storage operator would incur an annual 'penalty' of $19,000, corresponding to a total penalty of $380,000 (assuming a 20 year pay-in).

[16] It's worth emphasizing that this money is guaranteed to be present (assuming the U.S. Government continues to survive) because it has been invested at the rate of government bond yields (i.e., 3%) . Consequently, the entire amount could be invested in U.S. Treasury Bills to achieve the $20 million at Year 30.

[17] See 40 CFR Part 264, Subpart H.

[18] See 40 CFR 264.143(a)(3) ("Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or <u>over the remaining operating life of the facility</u> as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the ``pay-in period").

C12 Energy

Annuities and Bonds for Site Care and Monitoring

For the reasons outlined above, the Draft Financial Responsibility Guidance should recognize annuities and bonds, in addition to trust funds, as available instruments to satisfy site care and monitoring costs. Annuities and surety bonds are well-recognized instruments in the private sector to provide funds at a specified point in time. Surety bonds and annuities incorporate the discounting and/or investing elements discussed above.

The Draft Financial Responsibility Guidance should expand the scope of potential instruments to authorize the use of payment bonds and annuities that provide for the payment of a specified sum and not performance of a specified activity. The Draft Financial Responsibility Guidance currently only references performance bonds, which the commercial sector appears to be unwilling to provide at the time scales associated with a CO_2 storage project (e.g., well plugging at Year 30).[19] Annuities and payment bonds may be available from the commercial sector at the time scales for CO_2 storage projects.

Financial Assurance Plan

The UIC Rules provide that:

> (i) The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue of a Class VI permit (§146.82).[20]

The Draft Financial Responsibility Guidance appears to require that all financial assurances (e.g., insurance policies) be in place at the time of permitting. For example, the Draft Financial Responsibility Guidance states that:

> EPA recommends that an owner or operator of a new injection well submit the certificate of insurance to the Director with the permit application for approval to operate under the permit. The insurance should be effective before injection starts.[21]

[19] Draft Financial Responsibility Guidance, p. 32.
[20] See UIC Rules, 40 CFR §146.85(a)(5)(i).
[21] See Draft Financial Responsibility Guidance, p. 35. See also Draft Financial Responsibility Guidance, p. 6 ("To comply with 40 CFR 146.85, owners or operators will need to demonstrate financial responsibility coverage for each of these activities at the time of permit application"); Draft Financial Responsibility Guidance, p. 32 ("[A]n owner or operator of a new facility must submit the bond to the Director with the permit application and the bond should be effective before injection of CO_2 is started"); Draft Financial Responsibility Guidance, p. 29 ("EPA recommends that the owner or operator of a Class VI GS well submit the originally signed duplicate of the trust agreement to the Director with the permit application"); Draft Financial Responsibility Guidance, p. 31 ("The owner or operator should submit the surety bond to the Director with the application for a permit. EPA recommends that the bond be effective before the initial injection of CO_2"); Draft Financial Responsibility Guidance, p. 33 ("EPA recommends that an owner or operator of an injection well submit the letter of credit to the Director during submission of the permit application. The letter of credit must be effective before initial injection of CO_2"); Draft Financial Responsibility Guidance, p. 37 ("The owner or operator should submit an originally signed duplicate of the escrow agreement to the Director. EPA recommends that an owner or operator of a Class VI GS well

The approach articulated in the Draft Financial Responsibility Guidance is beyond the scope of the UIC Rules and incompatible with the financial instruments available in the commercial market. For example, it is impossible to obtain a insurance policy for the operation of a CO_2 storage project prior to the project being constructed. Likewise, it is impossible to obtain a bond to plug a well before that well has been drilled. The UIC rules do not require that such instruments be in place at the time of permitting; instead, they require that the CO_2 operator demonstrate financial responsibility for all stages of the CO_2 storage project.

Instead of requiring the various instruments be in place at the time of permitting, the Draft Financial Assurance Guidance should require the CO2 operator to submit a financial assurance plan demonstrating that the necessary instruments will be in place at the relevant time. For example, an operator would be required to demonstrate that an insurance policy (if that is the instrument selected) will be in place prior to commencement of injection; likewise, the operator would be required to demonstrate appropriate assurances to plug a well before CO_2 could be injected into the well. The UIC permit could require as a condition of the permit that the instrument be in place at the relevant period as a condition of the permit. If the CO_2 operator were unable to obtain the instrument at the relevant time, the permit condition would be unsatisfied and the operator would be unable to commence injection. Similarly, if the instrument were to lapse, the operator would be in breach of its permit, and would be required to pay a penalty and/or cease injection until the instrument (or an appropriate substitute as authorized by the Director) were obtained.

Such an approach is consistent with the RCRA financial assurance regulations, which require that the appropriate mechanism be in place prior to receipt of waste (as opposed to at the time of permitting)[22]

Insurance Policy Period

The UIC Rules provide that:

> (A) Cancellation – for purposes of this part, an owner or operator must provide that their financial mechanism may not cancel, terminate or fail to renew except for failure to pay such financial instrument. If there is a failure to pay the financial instrument, the financial institution may elect to cancel, terminate, or fail to renew the instrument by sending notice by certified mail to the owner or operator and the Director. The cancellation must not be final for 120 days after receipt of cancellation notice. The owner or operator must provide an alternate financial responsibility demonstration within 60 days of notice of cancellation, and if an alternate financial responsibility demonstration is not acceptable (or possible), any funds from the instrument being cancelled must be released within 60 days of notification by the Director.

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submit the originally signed duplicate of the escrow agreement to the Director with the permit application").

22 See 40 CFR 264.143(a)(1) ("An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal").

(B) Renewal – for purposes of this part, owners or operators must renew all financial instruments, if an instrument expires, for the entire term of the geologic sequestration project. The instrument may be automatically renewed as long as the owner or operator has the option of renewal at the face amount of the expiring instrument. The automatic renewal of the instrument must, at a minimum, provide the holder with the option of renewal at the face amount of the expiring financial instrument.

(C) Cancelation, termination, or failure to renew may not occur and the financial instrument will remain in full force and effect in the event that on or before the date of expiration: the Director deems the facility abandoned; or the permit is terminated or revoked or a new permit is denied; or closure is ordered by the Director or a U.S. district court or other court of competent jurisdiction; or the owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, or the amount due is paid. [23]

The Draft Financial Responsibility Guidance echoes these provisions without elaboration.[24]

The commercial insurance sector is unable to provide insurance policies for the entire term of the CO_2 storage project, which appears to mean from commencement through the end of the site care and monitoring period (i.e., for 80 years).[25] However, the commercial insurance sector is able to provide policies with automatic renewal provisions on the following conditions:

- Insurance company continues to offer insurance substantially similar to the policy proposed to be renewed;
- Insured has satisfied all terms and conditions of the policy, including payment of premium;
- Insured applies for renewal not more than 30 days and not less than 10 days prior to the expiration date of the policy;
- Use of insured property has not materially changed;
- The permit authorizing injection remains in force, has not been materially altered or amended since the inception of the policy, and the Insured is in compliance with its terms; and
- Any loss incurred under the policy at the time of renewal does not exceed 20% of the policy premium.

We understand that the coverage being offered for CO_2 storage projects is analogous to that used for RCRA hazardous waste facilities, which appear to have similar policy renewal requirements under the RCRA regulations. We suggest that the Draft Financial Assurance Guidance be revised to clarify that the renewal conditions offered in the commercial sector are consistent with the requirements under the UIC Rules.

[23] See UIC Rules, 40 CFR §146.85(a)(4)(i).
[24] See Draft Financial Responsibility Guidance, p. 27-28.
[25] Instead, commercial insurance policies are available for 1-3 year periods with renewal options.

Conclusion

C12 Energy sincerely appreciates the opportunity to provide comments on the Draft Financial Responsibility Guidance. As noted, we are in the process of attempting to satisfy the financial assurance requirements for commercial-scale CO_2 storage projects, and are encountering gaps between the requirements as articulated in the Draft Financial Responsibility Guidance and the financial instruments available on the market. We strongly support private responsibility for CO2 storage projects, and want to ensure that the necessary financial assurances capable of being provided in a commercial context in order to make CO_2 storage a reality.

Please feel free to contact me at [redacted] to discuss.

Kind regards,

/s/

Barclay Rogers
Director of Development
C12 Energy, Inc.

cc: Ann M. Codrington, Acting Director, Drinking Water Protection Division
Leslie Cronkhite
Bruce J. Kobelski,

Final EPA Rules for the Regulation of Geologic Sequestration of Carbon Dioxide Streams

The attached Multi-Stakeholder Letter was sent to EPA today to raise concerns regarding the Final EPA Rules for the Regulation of Geologic Sequestration of Carbon Dioxide Streams.

Best Regards,
Bob

Robert F. Van Voorhees, Manager
Carbon Sequestration Council
1155 F Street, N.W.
Washington, D.C. 20004

May 20, 2011

The Honorable Lisa P. Jackson
Administrator
U.S. Environmental Protection Agency
Ariel Rios Building
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Re: <u>Final EPA Rules for the Regulation of Geologic Sequestration</u>

Dear Administrator Jackson:

Following up on recent discussions with the Drinking Water Protection Division of the Office of Ground Water and Drinking Water, we want to reiterate our complements on the tremendous job that was done on the development and promulgation of the underground injection control (UIC) rule for geologic sequestration (GS). Federal Requirements Under the Underground Injection Control (UIC) Program for Carbon Dioxide (CO2) Geologic Sequestration (GS) Wells; Final Rule, which were promulgated effective on December 24, 2010. 75 Fed. Reg. 77230 to 77303 (December 10, 2010)("the GS UIC rule"). We appreciated the open and transparent process adopted by the Division in which we were invited to participate along with many other stakeholders in technical workshops beginning in 2005 and rulemaking workshops held in 2007 and 2008 to obtain input for the development of the proposed rule. This open process allowed the Division to move expeditiously and effectively in the development and promulgation of the GS UIC rule.

We are also pleased with the number of significant improvements in the final rule, some of which came in response to recommendations that we made either individually or together with other stakeholders. While we appreciate the process and the number of substantial improvements in the final rule, however, we have identified several provisions that could hinder the reasonable and effective siting and operation of geologic sequestration projects. If these provisions are not reinterpreted or otherwise applied in a more effective way, GS projects are much less likely to go forward, especially in saline formations.

Because we appreciate the process that was followed in the development of the GS UIC rule, we were not interested in seeking resolution of these concerns by filing a judicial petition for review even though some of the problems were introduced into the final rule by changes we did not expect and would have warned against in our comments if we had anticipated them. There are other provisions that EPA tried to improve but made changes that are rendered ineffective by other provisions in the rule. Finally, we made some recommendations that appear not to have been fully understood by the Agency. For those, we would appreciate having an opportunity to discuss how the rule might be improved even more even if the agency is not yet ready to propose technical corrections to those provisions.

We also appreciate the remarkable job that the EPA Air Office Climate Change Division (CCD) did in very openly and expeditiously developing, revising and finalizing the greenhouse gas (GHG) mandatory reporting rule (MRR) for underground injection of carbon dioxide for geologic sequestration (40 CFR Part 98 Subpart RR) or for other purposes (40 CFR Part 98 Subpart UU). Mandatory Reporting of Greenhouse Gases: Injection and Geologic Sequestration of Carbon Dioxide; Final Rule, 75 Fed. Reg. 75060 (December 1, 2010). CDD turned this rule around in record time and did so partly in response to our entreaties for rulemaking that would properly place in context the numbers that will be reported by suppliers of carbon dioxide for enhanced oil recovery (EOR) or GS, which would otherwise be reported as if emitted directly into the atmosphere. Yet we are also concerned that there is one provision of Subpart RR that has the potential to have a chilling effect on the deployment of some GS projects.

In the remainder of this letter we describe our concerns about provisions in both the GS UIC rule and Subpart RR of the GHG reporting rule. We would appreciate an opportunity to discuss these provisions further with your respective offices to seek improvements in the implementation of the final rules.

A. The Underground Injection Control Program Rule for Geologic Sequestration

Alternative Post-Injection Site Care Timeframe – We are concerned that the provisions allowing an operator to make a demonstration supporting approval of an alternative post-injection site care period will not operate as was intended by EPA. We support allowing operators to make such demonstrations but want to be sure that this option will be open throughout the lifetime of a GS project so that an operator will be encouraged and able to use monitoring and operational data and experience to support and periodically improve such a demonstration. Our concern arises from the use of the words "during the permitting process" in section 146.93(c) of the final rule, the statement in the preamble to the final rule that "[t]his demonstration must be submitted as part of the permit application pursuant to § 146.82(a)(18)" (75 Fed. Reg. at 77267) and from presentations by EPA officials following promulgation of the rule stating that this demonstration must be made "at the time of permitting." Considered together, these statements appear to indicate that there is only a one-time opportunity to make such a demonstration in the original permit application and not at any later time. Because Class VI permits are effective for the life of the project, the "permitting process" is arguably completed once the permit is issued. To be effective and to provide incentives for the best possible understanding and projections of GS project performance, these demonstrations must be allowed at every stage of the project, which is what we believe was intended.

GS Project Plan Development, Reevaluation and Updating – Through participation in the Multi-Stakeholder Discussion (MSD) process, we helped to fashion a recommended process that was designed to provide for the adaptability of GS project permits and plans and to foster the most effective use of monitoring data and operational experience through a dynamic iterative review and revision process. Although EPA has indicated its desire in the final rule and preamble to follow an iterative approach of the type described by the MSD participants in our recommendations, we are concerned that the final regulatory language has established a potentially rigid and cumbersome set of revision requirements that will hinder rather than facilitate the adaptability of these plans and the responsiveness of GS project operators to current and future monitoring and operational information. Specifically, we are concerned that the reevaluation and revision of all project plans is tied too closely to reevaluation of the area of review (some of these plans may need to be revised regardless of the need for area of review revisions). Moreover, the requirement for reevaluation of the area of review delineation on the basis of a "minimum fixed frequency, not to exceed five years," will serve to constrain the proper timing of reevaluations, which should probably occur with greater frequency early in a GS project and less frequency in later years. Where reevaluations and updates have been performed recently in response to material changes in the monitoring and operating information – or in response to improved understandings of that information – there should be no need to mechanically conduct a complete reevaluation just because the five-year period has run. We encourage the agency to again review the suggestions contained in the MSD recommendation letter dated May 14, 2009 (copy attached) and consider whether it is desirable to be more flexible in this regard provided that operators are required to keep the agency informed on an annual basis of material changes in project performance that would warrant a change in the area of review or other operational plans.

Fundamental program terminology – We continue to have concerns about some of the definitions of critically important program terminology for which we recommended revisions in our comments. We have carefully reviewed the responses to comments that are provided in the rulemaking record, but we have concluded that some of our concerns were either not accurately understood or not addressed. The result is several definitions that we are concerned will cause confusion and several others that may be viewed as imposing unintended additional regulatory requirements. For example, the use of the word "surrounding" in the definition of "area of review" and again in the language of section 146.84(a) is confusing and would appear to indicate that the area of review is an area located around the outside of what we believe is actually intended to be the area of review. We note in support of this concern that EPA itself chose to use alternative terms to explain the meaning of "area of review" in the Executive Summary (page *ii*) of its recently published Draft Underground Injection Control (UIC) Program Class VI Well Area of Review Evaluation and Corrective Action Guidance for Owners and Operators

(March 2011) (describing the area of review as the “region surrounding the proposed well” rather than the “region surrounding the geologic sequestration project”.

Another example is that the definition of “injection zone” proposed for Class VI wells appears to define zones that would be appropriate for GS without regard to whether those formations are ever proposed in a permit application for receiving fluids. We continue to believe that the longstanding definition of “injection zone” under the UIC program remains suitable for Class VI wells with one minor revision to accommodate the waiver process of section 146.95. The definition of “transmissive fault or fracture” may not be limited to faults or fractures that would in some way interfere with containment as we believe it should be. Thus, it is conceivable that a fracture entirely contained within an injection zone and offering no potential for movement beyond the confining zone could disqualify an otherwise suitable GS project site. We have continuing concerns about some of the other definitions, including “carbon dioxide stream”, “confining zone”, “geologic sequestration project”, and “pressure front”. We would appreciate an opportunity to discuss whether these concerns are legitimate and how the potential consequences could be addressed through rule revisions, interpretations, guidance or other means.

Flawed Injection Well Requirements – We also ask for an opportunity to revisit some of the well construction and operating issues that we deem particularly important. These include the recommendations for section 146.88(a) injection pressure limitations, section 146.86(b)(3) long string casing requirements, section 146.87 logging and testing requirements, section 146.88(c) and section 146.89(b) annulus pressure operating and reporting requirements, testing and monitoring, the section 146.91(a)(1) through (4) requirement that changes and events be “significant” to be reportable, and the MSD proposed noninterference provision, which could be an addition to section 146.94. The MSD participants identified serious problems with these provisions after spending a substantial amount of time having experienced operators, regulators and other experts review the proposed rule provisions. We were concerned that in some respects the proposals were not strong enough and that in other respects they were too prescriptive to be adaptable to site-specific circumstances and varied geologic and hydrogeologic profiles. We made focused recommendations to provide the necessary stringency for injection well construction and operating requirements to protect underground sources of drinking water and the environment without imposing unnecessarily rigid requirements. The final rule did not cure many of the problems we identified which we think could preclude the siting of GS projects in good locations. The responses to comments did not adequately explain why EPA found it unnecessary to address these problems by accepting the recommendations that resulted from thousands of hours of collaboration among a broad range of knowledgeable stakeholders.

Insurance limitation – The restriction that limits the use of insurance to policies from "third party providers" appears unnecessary in light of the availability of third party rating services comparable to the bond rating services relied upon in the corporate financial test provisions. Consideration should be given to using such ratings to allow the use of strong industry mutual pools and captive companies with sufficient capitalization to provide any necessary financial guarantees. Relying on rating services such as AM Best would help to provide the necessary checks.

B. The Mandatory Greenhouse Gas Reporting Rules for Carbon Dioxide Injection

With respect to the GHG reporting rule for GS, the specific provision that concerns us is the definition of the Maximum Monitoring Area (MMA) and the requirement to include a buffer zone of one-half mile around the projected carbon dioxide plume that is included in that definition and in other provisions of Subpart RR. In some cases monitoring much further away than one-half mile may be necessary while in other cases little or no 'buffer zone" may be appropriate. We have concerns about how this concept of a MMA relates to the approach to identifying monitoring schemes for UIC permitting and about the potential addition of many square miles of monitoring and reporting requirements that would apply outside of the area required to be addressed for monitoring and the area of review under a GS UIC permit. Moreover, we are concerned that establishing any "maximum" monitoring area is arbitrary given that monitoring plans ought to be driven by site-specific risks and conditions. We are also concerned that the definition of MMA contains the word "stabilized" that has been deleted from the GS UIC rule partly in response to the MSD recommendation that it be replaced. The CCD response to the MSD comments states that "EPA has added the additional criteria in (D) to ensure that the reporter may only discontinue reporting when they can demonstrate through monitoring and modeling that the injected CO2 is not expected to migrate in the future in a manner likely to result in surface leakage." USEPA, "Mandatory Greenhouse Gas Reporting Rule: EPA's Response to Public Comments; Geologic Sequestration and Injection of Carbon Dioxide: Subparts RR and UU" 127 Docket No. EPA-HQ-2009-0926-0834 (2010). We believe that this is a better criterion than "stabilized" which is not defined in either the rule or the preamble. In fact, the only place the word "stabilized" appears in the final Federal Register notice is in the definition of MMA itself. 75 Fed. Reg. at 75086. Accordingly, we believe that this term can be interpreted in a manner that is consistent with the closure standards of UIC Class VI.

In closing, we hope that EPA will respond favorably to this invitation for discussion of these final GS rule provisions. We are very concerned that without further action, the prospects for even current projects to move forward as effective GS projects could be substantially reduced, and that there will be less incentive for other projects to be launched. Companies that have the capabilities to implement GS projects – including companies signing this letter – will be disinclined to do so without actions to address these concerns.

Please respond to Bob Van Voorhees, Manager of the Carbon Sequestration Council at 202-508-6014 or bobvanvoorhees@carbonsequestrationcouncil.org. We look forward to continuing to work with both the Drinking Water Protection Division and the Climate Change Division on the implementation of these important rules.

Sincerely,

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