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# **Underground Injection Control (UIC) Class VI Program**

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## **Summary of Public Comments on EPA's Draft Guidance for Financial Responsibility for Geologic Sequestration of Carbon Dioxide**

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July 2011

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Office of Water (4606M)  
EPA 816-R-11-007  
July 2011  
<http://water.epa.gov/drink/>

## Summary of Public Comments on EPA’s Draft Guidance for Financial Responsibility for Geologic Sequestration of Carbon Dioxide

### Introduction

On December 10, 2010, EPA published the draft Guidance document “Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance” (EPA 816-D-10-010). Following publication of the draft Guidance, EPA invited the public to comment over a 30-day comment period, which was later extended an additional 30 days, moving the last day of the comment period to February 8, 2011.

EPA received unique submittals from 21 commenters. Commenters represented a variety of organizations, as shown in the table below:

| Summary of Guidance Commenters’ Affiliations |           |
|--|-----------|
| Oil and Gas                                  | 6         |
| Electric Utilities                           | 4         |
| States                                       | 3         |
| Energy Companies                             | 2         |
| Environmental Groups/NGOs                    | 2         |
| Carbon Capture/Sequestration Associations    | 2         |
| Mining                                       | 1         |
| Water Associations                           | 1         |
| <b>Total</b>                                 | <b>21</b> |

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Comments were made on a number of different aspects of the Guidance. In order to clarify responses, many of the longer comments were broken down into comment parts and categorized by topic. The table below summarizes the types of comments received.

| Comment Category  | Number of Comments |
|---|--------------------|
| General   | 11                 |
| Affordability and Availability of Financial Instruments     | 6                  |
| Self Insurance  | 6                  |
| Insurance   | 6                  |
| Director's Review   | 4                  |
| Recommended Instrument Use                                  | 4                  |
| Trust Funds   | 4                  |
| Financial Test and Corporate Guarantee                      | 3                  |
| Comment Period Deadline                                     | 3                  |
| Consistency With Rule                                       | 3                  |
| Enhance Oil Recovery versus Geologic Sequestration Projects | 3                  |
| Ongoing Responsibilities                                    | 3                  |
| Post-Injection Site Care and Site Closure                   | 3                  |
| Use of Multiple Instruments / Other Instruments             | 3                  |
| Net Working Capital / Tangible Net Worth                    | 2                  |
| Definitions   | 2                  |
| Emergency and Remedial Responses                            | 2                  |
| Cost Estimation   | 1                  |
| GS Project Activities                                       | 1                  |
| Purpose and Disclaimer                                      | 1                  |
| Recommended Financial Responsibility Instrument Language    | 1                  |
| Letters of Credit   | 1                  |
| <b>Total</b>  | <b>73</b>          |

EPA also held a listening session on the draft Guidance at the Ground Water Protection Council (GWPC) Underground Injection Control (UIC) Meeting on January 24, 2011 in Austin, TX. While EPA did not accept official comments via this meeting, comments were unofficially addressed and participants were encouraged to submit official comments via e-mail. Issues raised during this listening session, including unofficial comments, are included in Chapter 2 of this report.

Please note that this document is intended to be a summary of the comments presented; while attempts were made to capture all commenter arguments and suggestions which require a response by EPA, every individual comment may not be included in this condensed document.

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## Chapter 1: Comments and Responses

| # | Commenter/ Affiliation/<br>Date Comment Received   | Comment<br>Type  | Comment   | EPA Response  |
|---|--|--|---|---|
| 1 | Bob Houston/<br>Oregon Department of<br>Geology and Mineral<br>Industries/<br>January 10, 2011                                 | Affordability<br>and Availability<br>of Financial<br>Instruments | <p>DOGAMI has included comments to the Financial Responsibility Guidance Document below.</p> <p>Security instruments discussions starting on page 13. DOGAMI also requires a security instruments prior to issuing mining, oil &amp; 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.</p> <p>My first questions would be are they subject to bankruptcy proceedings? And how are they maintained and cancelled?</p> | <p>EPA appreciates information regarding the change in accessibility and availability of financial instruments that DOGAMI has noted. The rule lists qualifying instruments and allows for the use of any other instrument satisfactory to the Director. The creation of a bond pool may be an option for states with Class VI primacy.</p> <p>EPA acknowledges the commenter's interest in whether financial instruments are subject to bankruptcy, and defers to the relevant federal agencies, including the United States Bankruptcy Court and United States Trustee Program, along with the relevant state agencies on the subject of bankruptcy.</p> <p>EPA also notes that the rule requires conditions of coverage for the maintenance of financial responsibility instruments, including protective coverage conditions for cancellation and renewal at 40 CFR 146.85. The Guidance provides explanations and further recommendations for maintenance and coverage of financial instruments in, for example, the discussion Conditions of Coverage and Specifications for Financial Responsibility Demonstrations (Chapter 5) and the discussion Ongoing Responsibilities (Chapter 8).</p> |
| 2 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Affordability<br>and Availability<br>of Financial<br>Instruments | <p><b>I. Executive Summary</b></p> <p>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.</p> <p>EPA should revise the Draft Guidance, consistent with comments received from stakeholders, to further clarify the financial</p>   | <p>The ability to use multiple instruments will help owners and operators match the most appropriate financial responsibility instruments to each phase of their GS project. Furthermore, other instruments may be appropriate for a GS project depending on the project's location and the introduction of more widely available or appropriate instruments as financial markets adapt to the GS industry.</p> <p>EPA notes that the rule established the minimum financial responsibility requirements for GS activities. States with primacy can go above and beyond these</p>   |

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|---|--|--|---|--|
|   |  |  | <p>responsibility requirements for GS projects subject to the Class VI UIC Rule and other projects that engage in long-term sequestration of CO<sub>2</sub>. Revised Guidance should ensure that the full array of financial tools is both available and affordable.</p> <p>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.</p> <p>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.</p>   | <p>requirements, including the establishment of state-liability programs.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>1. EPA added text to the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3) to indicate the availability and affordability of the qualifying financial instruments listed in the rule, noting that these trends may change over time with changes in financial markets and the GS industry.</p>  |
| 3 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011 | Affordability<br>and Availability<br>of Financial<br>Instruments | <p><b>Availability, Affordability, and the Notion of a "Guarantee"</b></p> <p>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.</p> <p>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 CO<sub>2</sub> sequestration could have dire consequences.</p> <p>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 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:</p> <p>[A]gencies increasingly have focused on the sufficiency of bond</p> | <p>EPA recognizes the commenter's concern that financial responsibility requirements may deter the development of the GS industry. The rule and, accordingly, the Guidance focus on ensuring financial coverage sufficient to protect USDWs. EPA believes that the rule requirements and Guidance recommendations are tailored to the unique characteristics and requirements of GS.</p> <p>However, EPA notes also that Guidance recommendations took into consideration both the potential for instrument failure and the resource implications for owners or operators and Directors.</p> |

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|   |  |                 | <p>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<sup>1</sup></p> <p>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.<sup>2</sup> Again, we emphasize cost can turn into an issue of instrument availability, not just price.</p> <p>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.<sup>3</sup> The guidance describes the success of a financial responsibility program as follows:</p> <p>A successful financial responsibility demonstration will likely establish instruments that are aimed to protect USDW s 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.<sup>4</sup></p> <p>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</p> |              |

<sup>1</sup> Mining and the Vanishing Surety Bond Market," Lisa Kirschner and Edward B. Grandy, Natural Resources & Environment, Winter 2003, Volume 17, Number 3.

<sup>2</sup> EPA devotes nearly a full page to discussion of costs on p. 23 of the draft guidance.

<sup>3</sup> Proposed guidance, p. 51.

<sup>4</sup> Id.

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|---|---|--|--|---|
|   |   |  | have been laboring to promote.   |   |
| 4 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011                        | Affordability<br>and Availability<br>of Financial<br>Instruments | 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.   | <p>EPA acknowledges the impact that the GS financial responsibility rule requirements and Guidance may have on other services such as rural electric cooperatives. However, the rule and, accordingly, the Guidance focus on ensuring financial coverage sufficient to protect USDWs. As stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. EPA further notes that Guidance recommendations are not mandatory, and the Director must approve the use of all financial instruments.</p> <p>To address this comment, EPA has made the following updates to the Guidance:</p> <p>EPA added language in the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3) to indicate the availability and affordability of the qualifying financial instruments listed in the rule, noting that these trends may change over time with changes in financial markets and the GS industry.</p> |
| 5 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011 | Affordability<br>and Availability<br>of Financial<br>Instruments | <p><u>Availability of Financial Assurance Instruments with Automatic Renewals</u></p> <p>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.</p> | <p>EPA acknowledges that automatic renewal provisions for letters of credit and insurance policies may not always be available and that these provisions are not required under the rule. The Guidance recommends that letters of credit and insurance include an automatic renewal provision to increase the reliability of the instrument (by decreasing the number of opportunities for the third party to cancel), and to reduce the administrative burden placed on the Director. Research found in the Supporting Research and Analysis document that accompanies the Guidance indicates that this provision is a key consideration in the appropriateness of certain financial responsibility instruments for GS.</p> <p>To address this comment, EPA has made the following</p>   |

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|   |  |  |  | <p>updates to the Guidance:</p> <ol style="list-style-type: none"> <li>1. EPA added emphasis to the discussion Recommended Financial Responsibility Instrument Language for Class VI GS Wells (Appendix B) on the use of the recommended forms.</li> <li>2. EPA added language in the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3) to indicate the availability and affordability of the qualifying financial instruments listed in the rule, noting that these trends may change over time with changes in financial markets and the GS industry.</li> </ol>   |
| 6 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011  | Affordability<br>and Availability<br>of Financial<br>Instruments | 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.  | The Guidance notes, particularly in the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4), the importance of matching financial instruments based on the length of time that the covered GS activity is expected to last. There is also strong emphasis in the Guidance that owners or operators should ensure that financial instruments are adequate to cover the cost of the entire project phase for which they are being used. The ability to use multiple instruments will help owners or operators match the most appropriate financial responsibility instruments to each phase of their GS project. |
| 7 | John McManus,<br>Vice President,<br>Environmental Services/<br>American Electric Power;<br><br>Kyle Isakower,<br>Director of Policy Analysis/<br>American Petroleum<br>Institute;<br><br>D. Brian Williams,<br>Director, CCS Technology/ | Comment<br>Period Deadline                                       | Dear Director Dougherty:<br><br>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. | EPA extended the comment period an additional 30 days, so that it ended on February 8, 2011.<br><br>EPA notes that the comment period focused on revisions to the Guidance. EPA addressed the related issues including the request for a meeting, separately.<br><br>EPA appreciates and has carefully considered all comments on the Guidance.   |

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|   | <p>BP Alternative Energy<br/>North America Inc.;</p> <p>Frederick R. Eames,<br/>Partner,<br/>Hunton &amp; Williams LLP/<br/>for CCS Alliance;</p> <p>Robert F. Van Voorhees<br/>Manager/<br/>Carbon Sequestration<br/>Council;</p> <p>Sarah A. Edman,<br/>Manager, CCS Policy and<br/>Project Development/<br/>ConocoPhillips;</p> <p>Ronald T. Evans,<br/>President and Chief<br/>Operating Officer/<br/>Denbury Resources Inc.;</p> <p>Darlene Radcliffe,<br/>Director, Environmental<br/>Technology &amp; Fuel Policy/<br/>Duke Energy;</p> <p>William L. Fang,<br/>Deputy General Counsel/<br/>Edison Electric Institute;</p> <p>Scott Anderson,<br/>Senior Policy Advisor,<br/>Energy Program/<br/>Environmental Defense<br/>Fund;</p> <p>Tiffany Rau,<br/>Policy &amp; Communications</p> |                 | <p>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.</p> <p>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.</p> <p>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.</p> <p>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)</p> |              |

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|   | <p>Manager/<br/>Hydrogen Energy<br/>California LLC;</p> <p>George Peridas,<br/>Scientist Climate Center<br/>Natural Resources Defense<br/>Council;</p> <p>Al Collins<br/>Senior Director, Regulatory<br/>Affairs<br/>Occidental Petroleum<br/>Corporation;</p> <p>Karen C. Bennett<br/>Vice President of<br/>Environmental Affairs<br/>National Mining<br/>Association;</p> <p>Kenneth Loch<br/>Manager CO<sub>2</sub> &amp; CCS,<br/>Upstream Americas<br/>Shell Exploration &amp;<br/>Production Company;</p> <p>Karl R. Moor<br/>and Associate General<br/>Counsel<br/>Vice President<br/>Southern Company;</p> <p>John V. Corra<br/>Department of<br/>Environmental Quality<br/>Director<br/>Wyoming;</p> <p>Comment Received:</p> |                 | <p>Underground Injection Control (UIC) Meeting in Austin, Texas<br/>January 24-26, 2011, because we understand that many members of<br/>your team will be attending that meeting to conduct a training session<br/>on the new Class VI program for state and regional UIC program<br/>officials. We assume that the draft Financial Responsibility<br/>Guidance may be discussed in that session which is not open to<br/>members of the public. Accordingly, this appears to be a convenient<br/>time to meet with us as well.</p> <p>Some of us will not be at the GWPC meeting in Austin and would<br/>appreciate an opportunity to meet with members of your team in<br/>Washington, D.C. at a mutually convenient time.</p> <p>We thank you in advance for consideration of this request</p> |              |

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|----|---|----------------------------|--|--|
|    | January 6, 2011   |                            |  |  |
| 8  | Karen R. Obenshain, Sc.D./<br>Director, Fuels, Technology<br>& Commercial Policy<br>Edison Electric Institute/<br>December 13, 2010 | Comment<br>Period Deadline | The deadline for comments is listed as January 9, which is a Sunday.<br><br>Are comments due by then or by COB, Monday, January 10?  | EPA extended the deadline to February 8, 2011.   |
| 9  | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011   | Comment<br>Period Deadline | 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 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.  | EPA acknowledges the importance of receiving thoughtful and well-developed comments that will help improve the Guidance for its final version.   |
| 10 | Barclay Rogers, Director of<br>Development/<br>C12 Energy, Inc./<br>March 9, 2011   | Consistency<br>With Rule   | The UIC Rules provide that:<br><br>(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). <sup>5</sup><br><br>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:<br><br>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. <sup>6</sup> | EPA first notes that the Guidance and the rule differ in their intent and scope. As stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA’s current understanding of the best approach in the protection of USDWs from contamination considering (1) the potential for instrument failure, and (2) the resource implications for owners or operators and Directors.<br><br>The rule requires that qualifying financial responsibility demonstrations cover the cost of all the GS activities listed under 40 CFR 146.85(a)(2). The rule further requires that prior to the issuance of a permit for the |

<sup>5</sup> See UIC Rules, 40 CFR §146.85(a)(5)(i).

<sup>6</sup> 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<sub>2</sub> 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<sub>2</sub>”); 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

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|   |  |                 | <p>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<sub>2</sub> 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<sub>2</sub> operator demonstrate financial responsibility for all stages of the CO<sub>2</sub> storage project.</p> <p>Instead of requiring the various instruments be in place at the time of permitting, the Draft Financial Assurance Guidance should require the CO<sub>2</sub> 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<sub>2</sub> 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<sub>2</sub> 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.</p> <p>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).<sup>7</sup></p> | <p>construction of a new Class VI well or the conversion of an existing Class I, Class II, or Class V well to a Class VI well, the owner or operator shall submit a demonstration, satisfactory to the Director, that the applicant has met the financial responsibility requirements under 40 CFR 146.85, as specified at 146.82(a)(14). The Guidance is consistent with these rule requirements. It also offers suggestions and provides information, such as instrument strengths and weaknesses, that could aid instrument selection and other implementation efforts.</p> |

initial injection of CO<sub>2</sub>”); 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 submit the originally signed duplicate of the escrow agreement to the Director with the permit application”).

<sup>7</sup> 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”).

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| 11 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Consistency<br>with Rule | <p>A. The Purpose of the Guidance Should Be Consistent with Statutory Requirements of the UIC Program.<br/>The Draft Guidance’s Executive Summary includes the following two-sentence statement of purpose:</p> <p>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> <p>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:</p> <p>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.</p> <p>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.</p> <p>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</p> | <p>EPA clarifies that the objective of financial responsibility as stated in the rule preamble is “to ensure that adequate and continuous financial responsibility mechanisms are in place throughout the life of each GS project and that the cost associated with operation of GS projects is not passed along to the public.”</p> <p>Moreover, as stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA’s current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not borne by the general public, and (2) the resource implications for owners or operators and Directors.</p> <p>As stated above, an intended result of adequate financial responsibility is to prevent the costs associated with abandoned GS projects from being passed along to the public through government expenditure. However, EPA acknowledges the potential ambiguity associated with the term “private costs.”</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA removed the term “private costs” in the Executive Summary of the Guidance and clarified the meaning of that sentence.</p> |

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|    |  |                          | should remove any references to “private costs,” consistent with the UIC Class VI Rule.  |  |
| 12 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Consistency<br>with Rule | <p><b>B. References to “Unexpected Costs” Should Be Struck</b><br/>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.<sup>8</sup></p> <p>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).</p> <p>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.</p> | <p>EPA first notes that the Guidance and the rule differ in their intent and scope. As stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA’s current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not borne by the general public, and (2) the resource implications for owners or operators and Directors.</p> <p>EPA agrees that reference to “unexpected costs” does not appear in the rule and further is inconsistent with language used in the rest of the Guidance. The Guidance delineates the following division in costs: “In general, the GS activities requiring financial responsibility demonstrations can be characterized as either relatively well-defined in terms of when they will occur and how much they will cost or uncertain in terms of when (and if) they will occur and how much they will cost” (Chapter 4). By “unexpected costs,” the Guidance means costs that are uncertain in their amount and when they will occur and thus difficult to estimate. The rule requires under 146.85(a)(2) that qualifying instruments must be sufficient to cover the cost of GS activities. This is true even if these actual costs of these activities are greater than estimated costs..</p> <p>EPA also agrees that references to owners or operators only being released from financial demonstration when all project phases are complete, instead the potential for release of owners or operators at the completion of individual phases of GS activities and financial</p> |

<sup>8</sup> 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.

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|    |  |                 |   | <p>demonstrations, is inconsistent.</p> <p>To address this comment, EPA has made the following updates to the Guidance:</p> <ol style="list-style-type: none"> <li>1. EPA clarified the terms “expected” and “unexpected” in the Executive Summary.</li> <li>2. EPA added language to the discussion Conditions of Coverage and Specifications for Financial Responsibility Demonstrations (Chapter 5) to clarify that owners and operators may also be released from financial responsibility requirements for completed phases of GS projects before site closure.</li> </ol> |
| 13 | Barclay Rogers, Director of Development/<br>C12 Energy, Inc./<br>March 9, 2011 | Cost Estimation | <p>The UIC Rules provide that:</p> <p>(2) The qualifying instrument(s) must be sufficient to cover the cost of:</p> <p>(i) Corrective action (that meets the requirements of § 146.84)</p> <p>(ii) Injection well plugging (that meets the requirements of §146.92)</p> <p>(iii) Post injection site care and site closure (that meets the requirements of §146.93); and</p> <p>(iv) Emergency and remedial response (that meets the requirements of §146.94).<sup>9</sup></p> <p>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).</p> <p>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.<sup>10</sup> If it would cost \$150,000 to plug a carbon injection well in 30 years, one would need to invest</p> | <p>To account for changes in price over time, the rule requires annual cost adjustments, including adjustments for inflation. EPA believes that this method accurately accounts for changes in costs over time and ensures a reliable estimate of the required coverage for GS activities. While EPA acknowledges the importance of present value discounting in investment decisions, they are not applicable to the Guidance and the rule.</p>  |

<sup>9</sup> See UIC Rules, 40 CFR §146.85(a)(2).

<sup>10</sup> The general formula for calculating present value is:  $C_t = C(1+i)^{-t} = C / (1+i)^t$ . See [http://en.wikipedia.org/wiki/Present\\_value](http://en.wikipedia.org/wiki/Present_value).

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|    |  |                      | <p>\$8,596 today at a rate of 10% to satisfy these costs.</p> <p>The Draft Financial Responsibility Guidance does not mention present value discounting.<sup>11</sup> 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.</p>   |  |
| 14 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011                                | Definitions          | <p>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.</p> | <p>EPA acknowledges the commenter's request for clarification of the term "owner or operator" within the context of financial responsibilities.</p> <p>EPA clarifies that the party that holds the permit will be held financially responsible.</p>  |
| 15 | Thomas W. Curtis, Deputy<br>Executive Director/<br>Government Affairs,<br>AWWA/<br>February 8, 2011                            | Definitions          | <p>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.</p>  | <p>EPA acknowledges the commenter's request for clear and simple definitions. The Guidance defines terms not included in the rule and expands on definitions included in the rule to provide specific context for these terms within GS financial responsibility activities and the Guidance. EPA chose for sake of clarity to embed the numerous definitions of financial terminology within the discussions of respective financial instruments. For example, definitions of financial terminology can be found in the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3) of the Guidance.</p> |
| 16 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Director's<br>Review | <p>C. EPA Should Clarify that Owners and Operators May Be Released from Responsibility for a Particular Phase of a GS Project Before Site Closure.</p> <p>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</p>  | <p>EPA agrees that the section of the Guidance referenced by the commenter does not properly explain the rule and the Director's ability to release the owner or operator of a GS well from the financial responsibility for specific phases of the GS project.</p> <p>To address this comment, EPA has made the following</p>   |

<sup>11</sup> 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.

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|    |  |                              | <p>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...”</p>   | <p>update to the Guidance:</p> <p>EPA added language to the discussion Conditions of Coverage and Specifications for Financial Responsibility Demonstrations (Chapter 5) to clarify that owners and operators may also be released from financial responsibility requirements for completed phases of GS projects before site closure.</p>   |
| 17 | <p>Fred Eames/<br/>Hunton and Williams,<br/>CCS Alliance/<br/>February 8, 2011</p> | <p>Director’s<br/>Review</p> | <p><b>Director Approval</b></p> <p>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."<sup>12</sup> 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.</p> <p>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.</p> <p>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</p> | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>As stated in the rule “The owner or operator must demonstrate and maintain financial responsibility as determined by the Director...” (40 CFR 146.85(a)). The rule further states “The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit (§146.82).”</p> <p>EPA believes that the rule gives the Director enough flexibility to ensure the suitability of each financial demonstration without putting undue pressure and burdens on the Director or owners and operators. The Guidance offers recommendations for implementing and fulfilling financial responsibility requirements. The Guidance also further clarifies the Director’s review process. For example, the Guidance states that “the Director can find that the financial responsibility demonstration is unsatisfactory for any reason, as long as that reason is not arbitrary or capricious. EPA expects the Director to use this authority in particular to negotiate a satisfactory financial responsibility demonstration or to deny a demonstration with regard to the pay-in periods or the financial tests” (Chapter 7).</p> |

<sup>12</sup> See 40 CFR 146.84(b) and 40 CFR 146.93(a).

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|    |   |                      | <p>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.</p> <p>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 requirements in the proposed and final rules. This issue is most acute in the case of insurance, which we will discuss below.</p> |  |
| 18 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011 | Director's<br>Review | <p><u>Director Flexibility</u><br/>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 an analysis.</p>   | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>As stated in the rule “The owner or operator must demonstrate and maintain financial responsibility as determined by the Director...” (40 CFR 146.85(a)). The rule further states “The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit (§146.82).” Further, to account for changes in cost estimates over time, the rule requires annual cost adjustments, including adjustments for inflation.</p> <p>The Director must approve all aspects of the financial responsibility demonstration, including annual cost estimates; Director approval may require additional conditions of coverage or updated cost estimates. EPA believes that this method accurately accounts for changes in costs over time and ensures a reliable estimate of the required coverage for GS activities.</p> |
| 19 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011     | Director's<br>Review | <p><b>Director Discretion</b> - 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</p>                                      | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>Under 40 CFR 146.85(a) the rule states “The Director shall consider and approve the financial responsibility demonstration for all the phases of the geologic sequestration project prior to issue a Class VI permit (§146.82).” Under 40 CFR 146.82(a), the rule further</p>   |

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|   |  |                 | <p>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:</p> <p>The Director also has the discretion to reject financial instruments determined to be insufficient if they are:</p> <ul style="list-style-type: none"> <li>Not a qualifying instrument;</li> <li>Not sufficient to cover the required costs (e.g. properly plugging and monitoring wells);</li> <li>Not sufficient to address endangerment of USDWs; and</li> <li>Not sufficiently meeting the required conditions of coverage that facilitate enforceability and prevent gaps in coverage through site closure.</li> </ul> | <p>states that the Director shall consider, among other things, the financial responsibility demonstration and any other information requested by the Director before issuing a Class VI permit.</p> <p>EPA believes that these provisions give the Director enough flexibility to ensure the suitability of each financial demonstration without putting undue pressure and burdens on the Director or owners and operators. The Guidance offers recommendations for implementing and fulfilling financial responsibility requirements. The Guidance further clarifies the Director’s review process. The Guidance states: “The Director can find that the financial responsibility demonstration is unsatisfactory for any reason, as long as that reason is not arbitrary or capricious. EPA expects the Director to use this authority in particular to negotiate a satisfactory financial responsibility demonstration or to deny a demonstration with regard to the pay-in periods or the financial tests” (Chapter 7).</p> <p>EPA recognizes that the language of “Director’s discretion” as it appears in the Guidance does not appear in the financial responsibility section of the rule.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA clarified the Director’s role using language more consistent with the rule under 40 CFR 146.85.</p> |

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| 20 | Thomas W. Curtis, Deputy<br>Executive Director/<br>Government Affairs,<br>AWWA/<br>February 8, 2011 | Emergency and<br>Remedial<br>Responses | <p>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.</p> <p>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.</p> | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>EPA agrees that it is important for the owner or operator maintain financial coverage in case an emergency or remedial response. The Guidance provides methodologies, which can be found in Appendix C, for estimating the costs of remedial actions such as addressing deficient wells.</p> <p>EPA agrees that cost estimates for emergency and remedial responses and the corresponding financial instrument(s) should take into account liabilities such as the contamination of other ground water aquifers. This is evidenced in the phrase "Proximity to USDWs or other drinking water sources" in Appendix C of the Guidance. EPA further clarifies that the definition of USDW accommodates certain aquifers not yet used as drinking water sources.</p> |

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| 21 | Thomas W. Curtis, Deputy Executive Director/<br>Government Affairs,<br>AWWA/<br>February 8, 2011                         | Emergency and Remedial Responses                            | 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.  | EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.<br><br>The Guidance notes, particularly in the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4), the importance of matching financial instruments based on characteristics of the covered GS activities, including how “certain” or “uncertain” the GS activities are in terms of when they will occur and how much they will cost and the length of the coverage requirements. For example, emergency and remedial response is a GS activity with relative uncertainty regarding the scale and frequency of responses, therefore requiring financial instruments suited for this uncertainty. Stakeholders obtain maximum benefits by effectively matching the financial instrument to the appropriate GS activity. |
| 22 | Emily Sanford Fisher, Director, Legal Affairs, Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Enhance Oil Recovery versus Geologic Sequestration Projects | 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. | EPA acknowledges the commenter’s request to clarify the relationship between state-based orphan funds and the rule.<br><br>EPA acknowledges that some states with primacy may choose to develop state-wide funds as a financial instrument within their state.  |
| 23 | Emily Sanford Fisher, Director, Legal Affairs, Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Enhance Oil Recovery versus Geologic Sequestration Projects | J. EPA Should Clarify if and when Financial Responsibility Instruments Are Needed to Address Concurrent Enhanced Oil Recovery/Sequestration Operations under Class II.<br>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 Guidance defines “owners or operators” as “Owners or operators of injection wells that will be used to inject CO <sub>2</sub> into the subsurface for the purposes of GS. This includes owners or operators of CO <sub>2</sub> injection wells used for Class VI GS and owners or operators of existing CO <sub>2</sub> injection wells transitioning from Class I, II or V injection activities to Class VI GS.” The statement is not meant to describe all the scenarios in which Class II operations conduct sequestration. Instead, it is intended to inform readers that in the event that a Class II well is transitioning to a Class VI well, the financial  |

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|    |  |   | <p>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<sub>2</sub> injection wells transitioning from Class I, II or V injection activities to Class VI GS.” Draft Guidance at p. 4.<sup>13</sup></p> <p>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).</p>  | <p>responsibility described in the rule and the Guidance will apply.</p> <p>The rule, at 40 CFR 146.81(c), states “This subpart also applies to owners or operators of permit- or rule-authorized Class I, Class II, or Class V experimental carbon dioxide injection projects who seek to apply for a Class VI geologic sequestration permit for their well or wells.” The Guidance does not substitute or supersede the rule.</p>  |
| 24 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011                                | Enhance Oil<br>Recovery<br>versus Geologic<br>Sequestration<br>Projects | <p>Distinction between Enhanced Oil Recovery versus Permanent Geologic Sequestration Projects</p> <p>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<sub>2</sub> permanently sequestered will differ for EOR versus permanent sequestration. A price or cap on CO<sub>2</sub> emissions is likely to create contractual obligations for sequestration activities.</p>   | <p>EPA acknowledges the comment and agrees that outcomes related to CO<sub>2</sub> emissions are an important concern. However, the measurement of CO<sub>2</sub> and the potential outcomes of a price or cap on CO<sub>2</sub> emission fall outside the scope of the public comment period for the Guidance.</p>  |
| 25 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Financial Test<br>and Corporate<br>Guarantee                            | <p>H. Corporate Guarantees Should Not Be Limited by Requirements Not In the Final UIC Class VI Rule.</p> <p>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.</p> | <p>The Guidance uses historical precedence from both the UIC Class I rule and Class II Guidance to build an appropriate set of recommendations for the financial responsibility instruments applicable to GS projects.</p> <p>Recommendations for corporate guarantee in the Guidance are chosen based on consistency with Class II Guidance. Class II Guidance states: “A parent corporation must own at least 50 percent of the subsidiary’s voting stock” and “Companies in business less than five years or whose net worth is less than \$1 million may be ineligible for use of financial statements or blanket coverage.”</p> <p>EPA further notes that Guidance recommendations are not mandatory, and the Director must approve the use of all financial instruments.</p> |

<sup>13</sup> Confusingly, however, the relevant UIC Class VI Rule provision on this point is entitled “Transitioning from Class II to Class VI.”

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| 26 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011 | Financial Test<br>and Corporate<br>Guarantee | 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 substantial business relationships that does meet the financial test”. <sup>14</sup>   | EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.<br><br>The Guidance must be consistent with the current rule, which specifies at 40 CFR 146.85(a)(6)(vi) that “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 meets the financial test requirements on its behalf. The parent’s demonstration that it meets the financial test requirement is insufficient if it has not also guaranteed to fulfill the obligations for the owner or operator.” The Guidance cannot recommend acceptance of a corporate guarantee from an entity with a ‘substantial business relationship’ to the guarantee.   |
| 27 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011 | Financial Test<br>and Corporate<br>Guarantee | <p>Specific Requested Revisions</p> <p>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 (CO<sub>2</sub>) 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:</p> <p>A. Requests for reconsideration and revision of the GS UIC rule:</p> <p>EPA is requested to revise 40 CFR §146.85(a)(6)(v) to read as follows:<br/>(v) An owner or operator or its guarantor may use self insurance to</p> | <p>Response to “A. Requests for reconsideration and revision of the GS UIC rule”: EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>Response to “B. Requests and recommendations for revision of the draft Financial Responsibility Guidance”: The term “independent third-party insurer” is consistent with the rule, which states at 40 CFR 146.85(a)(6)(vii) that “An owner or operator may obtain an insurance policy to cover the estimated costs of geologic sequestration activities requiring financial responsibility. This insurance policy must be obtained from a third party provider.”</p> <p>EPA does not consider captive insurance as a form of independent third party insurance, but does consider mutual insurance pools as a form of third party insurance. This definition of third party insurance</p> |

<sup>14</sup> 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.”

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|   |  |                 | <p>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:</p> <p>(A) The owner or operator must have:<br/>Two of the following three ratios:<br/>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<br/>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.</p> <p>(B) The owner or operator must have:<br/>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<br/>Tangible net worth at least six times the sum of the current well plugging, post injection site care and site closure cost estimate; and<br/>Tangible net worth of an amount approved by the Director; and<br/>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.</p> <p>2. EPA is requested to revise 40 CFR §146.85(a)(6)(vi) to read as follows:<br/>(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.<br/>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</p> | <p>(including mutual insurance and excluding captive insurance) is explained in the “Independent third party insurance” section of Chapter 3 of the Guidance.</p> |

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|    |  |                 | <p>insurer with a rating of ‘secure’ or better by AM Best or an equivalent rating from a comparable rating agency.”</p> <p>B. Requests and recommendations for revision of the draft Financial Responsibility Guidance:</p> <p>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.</p> <p>Likewise, change the term “independent third party insurance” to “qualifying insurance” to make this change consistent throughout the document.</p> <p>Eliminate the “Captive Insurance” box on page 18 of the draft Financial Responsibility Guidance.</p>  |  |
| 28 | Barclay Rogers, Director of Development/<br>C12 Energy, Inc./<br>March 9, 2011 | General         | <p>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<sub>2</sub>) Geologic Sequestration (GS) Wells (UIC Rules).<sup>15</sup> As you know, we are currently attempting to satisfy the requirements for several commercial-scale CO<sub>2</sub> 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).<sup>16</sup></p> <p>C12 Energy strongly supports private responsibility for CO<sub>2</sub> projects, and recognizes the important role that financial assurance requirements play in providing sufficient funding to carry out the</p> | EPA appreciates and has carefully considered comments on the Guidance from C12 Energy. |

<sup>15</sup> <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<sub>2</sub> storage project developer in the United States. To date, we have secured CO<sub>2</sub> 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<sub>2</sub> storage capacity distributed throughout the nation. To put this in context, our sites are currently sufficient to permanently store CO<sub>2</sub> 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.

<sup>16</sup> <http://water.epa.gov/type/groundwater/uic/class6/upload/uicclass6financialresponsibilityguidancedec2010.pdf>

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|    |  |                 | <p>required activities to ensure safe storage of CO<sub>2</sub> over the life of a geologic sequestration project. We fully support the financial assurance requirements to the extent they:</p> <ul style="list-style-type: none"> <li>• Require adequate funding to carry out specified activities at particular times;</li> <li>• Are able to be satisfied with financial instruments currently available in the commercial market; and</li> <li>• Recognize the economic principle of present value discounting.</li> </ul> <p>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.</p> <p>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<sub>2</sub> 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 CO<sub>2</sub> storage projects, and want to ensure that the necessary financial assurances capable of being provided in a commercial context in order to make CO<sub>2</sub> storage a reality.</p> |  |
| 29 | Bob Houston/<br>Oregon Department of<br>Geology and Mineral<br>Industries/<br>January 10, 2011                                 | General         | 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.  | EPA appreciates support on the rule from the Oregon Department of Geology and Mineral Industries (DOGAMI). EPA acknowledges and appreciates DOGAMI’s interest in partnerships with the Oregon Department of Environmental Quality. |
| 30 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | General         | <p>Dear Sir or Madam:</p> <p>The Edison Electric Institute (EEI) submits the attached comments on the draft financial responsibility guidance (Draft Guidance) for the Underground Injection Control (VIC) Class VI Program issued by the Environmental Protection Agency (EPA) in December 2010 (EPA</p>  | EPA appreciates and has carefully considered comments on the Guidance from the Edison Electric Institute (EEI).  |

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|   |  |                 | <p>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).</p> <p>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.</p> <p>EEI appreciates the opportunity to provide comments</p> <p>The Edison Electric Institute (EEI)<sup>17</sup> 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).<sup>18</sup></p> <p>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 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</p> |              |

<sup>17</sup> 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.

<sup>18</sup> 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.

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|    |   |                 | <p>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. (GS) of carbon dioxide (CO<sub>2</sub>) 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 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.</p>  |  |
| 31 | <p>Emily Sanford Fisher,<br/>Director, Legal Affairs,<br/>Energy and Environment/<br/>Edison Electric Institute/<br/>February 8, 2011</p> | General         | <p>II. Introduction</p> <p>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<sub>2</sub> emissions in the U.S.<sup>19</sup> EIA projects that net electric demand will increase 30 percent by 2035, even after taking into account energy efficiency improvements.<sup>20</sup> 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.<sup>21</sup> Given this backdrop, the potential environmental benefits of CCS – in terms of avoided CO<sub>2</sub> emissions – are substantial. Consequently, CCS is a critical element in the full portfolio of options needed not only to reduce CO<sub>2</sub> emissions, but also to ensure continued affordable and reliable electric service to customers throughout the U.S.</p> | <p>EPA clarifies that the objective of the financial responsibility requirements as stated in the preamble to the rule 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.”.</p> <p>Moreover, as stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA’s current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not borne by the general public, and (2) the resource implications for owners or operators and Directors.</p> <p>EPA thoroughly researched recommendations in the Guidance based on comments to the proposed rule;</p> |

<sup>19</sup> 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](http://www.eia.doe.gov/oiaf/aeo/pdf/0383(2010).pdf).

<sup>20</sup> See id. at 65.

<sup>21</sup> See id. at 67.

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|    |  |                 | <p>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.</p> <p>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 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.</p>  | <p>public financial responsibility Web casts held in spring 2009; and publicly available literature, including peer-reviewed journal articles and government and non-government reports. This research addressed specific questions and issues important to stakeholders and can be found in the Supporting Research and Analysis document that accompanies the Guidance.</p>  |
| 32 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011 | General         | <p>Dear Director Codrington:</p> <p>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.</p> <p>The CCS Alliance submitted comments on December 22, 2008 in docket EPA-HQ-OW2008-0390 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.</p> <p>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</p> | <p>EPA appreciates and has carefully considered comments on the Guidance from the CCS Alliance.</p> <p>EPA disagrees that the stated intent of financial assurance is to be "economically efficient." EPA clarifies that the objective of the financial responsibility requirements as stated in the preamble to the rule 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."</p> <p>Moreover, as stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA's current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not passed along to the public, and (2) the resource implications for owners or operators and Directors.</p> <p>EPA thoroughly researched recommendations in the</p> |

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|    |  |                 | <p>that goal. It should be revised consistent with the suggestions below.</p> <p>In conclusion, we appreciate the opportunity to offer these comments and offer our availability to discuss them with the agency at its convenience.</p>   | <p>Guidance based on comments to the proposed rule; public financial responsibility Web casts held in spring 2009; and publicly available literature, including peer-reviewed journal articles and government and non-government reports. This research addressed specific questions and issues important to stakeholders and can be found in the Supporting Research and Analysis document that accompanies the Guidance.</p>  |
| 33 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011 | General         | <p>Importance of CCS</p> <p>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.</p> <p>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 ...."<sup>22</sup> 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.</p> <p>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.</p> | <p>EPA clarifies that the objective of the financial responsibility requirements as stated in the preamble to the rule 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."</p> <p>Moreover, as stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA's current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not passed along to the public, and (2) the resource implications for owners or operators and Directors.</p> <p>EPA thoroughly researched recommendations based on comments to the proposed rule; public financial responsibility Web casts held in spring 2009; and publicly available literature, including peer-reviewed journal articles and government and non-government reports. This research addressed specific questions and issues important to stakeholders and can be found in the Supporting Research and Analysis document that accompanies the Guidance.</p> |

<sup>22</sup> I "PSD and Title V Permitting Guidance for Greenhouse Gases," p. 33-34, U.S. Environmental Protection Agency, Office of Air and Radiation, November 2010.

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| 34 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011   | General         | <p>Dear Sir/Madam:<br/>The Wyoming Department of Environmental Quality has reviewed US EPA 's d raft guidance (UIC Class VI Program: Financial Responsibility Guidance. December 2010) and offers the following comments for your review and consideration.</p> <p>Thank you for the opportunity to review and comment on this draft guidance document.</p>   | EPA appreciates and has carefully considered comments on the Guidance from the Wyoming Department of Environmental Quality (DEQ).   |
| 35 | Michael H. Cochran,<br>Licensed Geologist, Chief,<br>Geology Section/<br>Kansas Department of<br>Health & Environment/<br>December 21, 2010 | General         | We appreciate the opportunity to comment.   | EPA appreciates and has carefully considered comments on the Guidance from the Kansas Department of Health & Environment.   |
| 36 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011   | General         | 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. | <p>EPA appreciates the CSC's support for content included in the Guidance. As stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule. The Guidance provides recommendations based on EPA's current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not passed along to the public, and (2) the resource implications for owners or operators and Directors.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA updated the example template in Appendix C of the Guidance regarding the financial test (bond rating alternative) to be consistent with the final rule.</p> |
| 37 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011   | General         | <p>Dear Director Codrington:</p> <p>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</p>  | EPA appreciates and has carefully considered comments on the Guidance from the Carbon Sequestration Council. EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.   |

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|    |   |                 | <p>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<sub>2</sub>) 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”).</p> <p>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<sub>2</sub>) 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.</p> <p>Thank you for the opportunity to comment on this draft Financial Responsibility Guidance.</p> |  |
| 38 | Thomas W. Curtis, Deputy<br>Executive Director/<br>Government Affairs,<br>AWWA/<br>February 8, 2011 | General         | <p>Dear Sir or Madam:</p> <p>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</p>   | EPA appreciates and has carefully considered comments on the Guidance from the AWWA. |

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|    |   |                          | <p>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.</p> <p>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 appreciates the consideration of our concerns and recommendations.</p>   |  |
| 39 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011 | GS Project<br>Activities | <p>Site Specific Considerations and the Importance of tile Permitting Phase</p> <p>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.</p> | <p>EPA agrees that good site selection, clear identification of the area of review, and analysis during the permitting process are all important actions. The Guidance suggests that the owner or operator start to consider financial responsibility as early as possible in project development, prior to the permitting and review stage.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA added language and references to other Class VI guidance documents to the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) to emphasize the importance of thorough siting and the effect high quality siting and review can have on the cost and risk of GS activities.</p> |
| 40 | Barclay Rogers, Director of<br>Development/<br>C12 Energy, Inc./<br>March 9, 2011               | Insurance                | <p>The UIC Rules provide that:</p> <p>(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</p>   | <p>EPA agrees that the cancellation and renewal conditions of the rule are analogous to those of RCRA. The only automatic renewal condition required by the rule is that “the owner or operator has the option of renewal at the face amount of the expiring instrument.” The Director may determine that other automatic renewal conditions, similar to those listed in the comment are consistent with the rule.</p> <p>The purpose of the Guidance is to provide recommendations based on EPA’s current understanding of the best approach in the protection of USDWs from</p>  |

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|   |  |                 | <p>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.</p> <p>(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.</p> <p>(C) Cancellation, 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.<sup>23</sup></p> <p>The Draft Financial Responsibility Guidance echoes these provisions without elaboration.<sup>24</sup></p> <p>The commercial insurance sector is unable to provide insurance policies for the entire term of the CO<sub>2</sub> storage project, which appears to mean from commencement through the end of the site care and monitoring period (i.e., for 80 years).<sup>25</sup> However, the commercial insurance sector is able to provide policies with automatic renewal provisions on the following conditions:</p> <ul style="list-style-type: none"> <li>• Insurance company continues to offer insurance substantially similar to the policy proposed to be renewed;</li> <li>• Insured has satisfied all terms and conditions of the policy, including payment of premium;</li> </ul> | <p>contamination considering (1) the potential for instrument failure, and (2) the resource implications for owners or operators and Directors. The Guidance makes recommendations beyond the requirements in the rule by providing sample templates with instrument language. However, the Guidance notes that the language in these templates is only a recommendation.</p> |

<sup>23</sup> See UIC Rules, 40 CFR §146.85(a)(4)(i).

<sup>24</sup> See Draft Financial Responsibility Guidance, p. 27-28.

<sup>25</sup> Instead, commercial insurance policies are available for 1-3 year periods with renewal options.

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|    |  |                 | <ul style="list-style-type: none"> <li>• Insured applies for renewal not more than 30 days and not less than 10 days prior to the expiration date of the policy;</li> <li>• Use of insured property has not materially changed;</li> <li>• 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</li> <li>• Any loss incurred under the policy at the time of renewal does not exceed 20% of the policy premium.</li> </ul> <p>We understand that the coverage being offered for CO<sub>2</sub> 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.</p>   |   |
| 41 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011 | Insurance       | <p>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.</p> <p>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."<sup>26</sup> 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."<sup>27</sup></p> <p>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</p> | <p>The rule requires that insurance policies should be cancellable only for nonpayment of the premium in order to increase the reliability of the instrument (decrease the number of opportunities for the third party to cancel the line of credit) and to reduce the administrative burden placed on the Director. The Guidance provides recommendations based on EPA's current understanding of the best approach in the protection of USDWs from contamination considering (1) the potential for instrument failure, and (2) the resource implications for owners or operators and Directors. EPA recognizes that the provisions recommended in the Guidance may not always be available, and that these provisions are not required under the rule.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> |

<sup>26</sup> Id, p. 78.

<sup>27</sup> Id.

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|    |   |                 | <p>and other matters through other instruments.</p> <p>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.</p> <p>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.</p>  | <p>EPA added language to the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3) to indicate the availability and affordability of the qualifying financial instruments listed in the rule, noting that these trends may change over time with changes in financial markets and the GS industry.</p>  |
| 42 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011 | Insurance       | <p><b>Insurance Policy</b> - 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</p> | <p>The rule requires that insurance policies should be cancellable only for nonpayment of the premium in order to increase the reliability of the instrument (decrease the number of opportunities for the third party to cancel the line of credit) and to reduce the administrative burden placed on the Director. The Guidance provides recommendations for other coverage conditions based on EPA's current understanding of the best approach in the protection of USDWs from contamination considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not passed along to the public, and (2) the resource implications for owners or operators and Directors. EPA recognizes that the provisions recommended in the Guidance may not always be available, and that these provisions are not required under the rule.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> |

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|    |   |                 | available in many circumstances or available only at unnecessarily higher costs to operators. Neither result is desirable.  | EPA clarified the appropriate use of the forms in Recommended Financial Responsibility Instrument Language for Class VI GS Wells (Appendix B).   |
| 43 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011 | Insurance       | <p>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:</p> <p>[W] with respect to captive insurance as a financial assurance tool, the Board recommends that EPA require that:</p> <p>(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</p> <p>(2) That the captive entity issuing the insurance policy have a rating of “secure” or better by AM Best or comparable rating agency.</p> <p>(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.<sup>28</sup></p> <p>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.</p> | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period. The rule currently specifies that insurance is only an acceptable GS financial responsibility instrument when obtained from a third party. Therefore, the Guidance must continue to treat captive insurance as a form of self insurance. However, the requirements for self insurance (and thus captive insurance) are similar to the captive insurance requirements recommended by the EFAB.</p> <p>An owner or operator wishing to use captive insurance must pass the financial test described under self insurance requirements, including exceeding the five financial ratios or a specified bond rating for its most recent bond issuance.</p> |

<sup>28</sup>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.”)

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|    |  |                 | <p>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.”<sup>29</sup> 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.</p> <p>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.</p> |   |
| 44 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011    | Insurance       | <p>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.</p>   | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period. However, EPA considers qualifying mutual insurance to be a form of third-party insurance, as mentioned in Chapter 3 of the draft Guidance. For example, as a third party instrument, an owner or operator must prove the mutual insurance’s stability to the Director by meeting all of the provisions set forth in the rule.</p> |
| 45 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council;<br><br>Scott Anderson, | Insurance       | <p>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</p>   | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>However, EPA considers qualifying mutual insurance to be a form of third-party insurance, as mentioned in Chapter 3 of the draft Guidance. As a third-party</p>  |

<sup>29</sup> EFAB, “Financial Assurance: Commercial Insurance as a Financial Assurance Tool at 12 (February 2010) (Attachment C).

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|   | <p>Senior Policy Advisor,<br/>Energy Program/<br/>Environmental Defense<br/>Fund;</p> <p>Kyle Isakower,<br/>Director of Policy Analysis/<br/>American Petroleum<br/>Institute;</p> <p>Ronald T. Evans,<br/>President and Chief<br/>Operating Officer/<br/>Denbury Resources Inc.;</p> <p>Karl R. Moor,<br/>Vice President and<br/>Associate General Counsel/<br/>Southern Company;</p> <p>Sarah A. Edman,<br/>Manager, CCS Policy and<br/>Project Development/<br/>ConocoPhillips;</p> <p>Al Collins,<br/>Senior Director, Regulatory<br/>Affairs/<br/>Occidental Petroleum<br/>Corporation;</p> <p>Kenneth Loch<br/>Manager CO<sub>2</sub> &amp; CCS,<br/>Upstream Americas<br/>Shell Exploration &amp;<br/>Production Company;</p> <p>Comment Received:<br/>May 20, 2011</p> |                 | <p>with sufficient capitalization to provide any necessary financial guarantees. Relying on rating services such as AM Best would help to provide the necessary checks.</p> | <p>instrument, an owner or operator must prove the mutual insurance’s financial stability to the Director. Credit ratings exist as one option to demonstrate instrument’s financial stability.</p> <p>EPA does not consider captive insurance companies to be third-party providers because the financial arrangement involves a form of self-insurance. However, an owner or operator may use captive insurance in addition to a self insurance demonstration. To do this, the owner or operator would need to pass the financial test criteria specified in the rule. Alternatively, if satisfactory to the Director, an owner or operator may use captive insurance as an “other” qualifying financial instrument. In such cases, the Director may rely on credit rating services to as proof of the captive insurance financial stability.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA provided additional information regarding the use of captive insurance as a financial responsibility instrument to the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3).</p> |

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| 46 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011   | Letters of<br>Credit                              | <p>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.</p> <p>The guidance recommends that:<br/>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.</p> | <p>Under 40 CFR 146.85(a), the rule requires protective coverage conditions, including a condition requiring the Director to accept alternate financial responsibility demonstration before finalization of cancellation. EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period.</p> <p>EPA’s research, as found in the Supporting Research and Analysis document that accompanies the Guidance, suggests that letters of credit may be less reliable if they can be cancelled without written approval. The Guidance provides recommendations based on EPA’s current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not borne by the general public, and (2) the resource implications for owners or operators and Directors. Moreover, as stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule.</p> <p>EPA further recognizes the commenter’s concern that financial responsibility requirements may deter the development of the GS industry. The rule and, accordingly, the Guidance focus on ensuring financial coverage sufficient to protect USDWs, and EPA believes that the rule requirements are tailored to the unique characteristics and requirements of GS. EPA notes, however, that Guidance recommendations took into consideration both the potential for instrument failure and the resource implications for owners or operators and Directors.</p> |
| 47 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Net Working<br>Capital /<br>Tangible Net<br>Worth | <p>D. 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.</p> <p>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</p>  | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period. Since the current rule includes both net working capital and tangible net worth requirements for both alternatives of the financial test, the Guidance must provide consistent information.</p> <p>To address this comment, EPA has made the following</p>  |

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|   |  |                 | <p>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).</p> <p>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 but not 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.</p> <p>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.</p> <p>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.</p> | <p>update to the Guidance:</p> <p>EPA corrected the sample form found in Appendix B of the Guidance for Alternative II of the financial test to be consistent with both the rule and the information provided in the body of the Guidance.</p> |

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|    |   |   | <p>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 10 required for Class II and Class I UIC wells.</p>  |  |
| 48 | Robert F. Van Voorhees, Manager/<br>Carbon Sequestration Council/<br>February 7, 2011 | Net Working Capital /<br>Tangible Net Worth | <p>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</p> | <p>EPA notes that comments on the rule are beyond the scope and intent of this Guidance comment period. Since the current rule includes both net working capital and tangible net worth requirements for both alternatives of the financial test, the Guidance must provide consistent information.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA corrected the sample form found in Appendix B of the Guidance for Alternative II of the financial test to be consistent with both the rule and the information provided in the body of the Guidance.</p> |

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|   |  |                 | <p>wells.</p> <p>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.</p> <p>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.”<sup>30</sup></p> <p>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:<br/>(v) An owner or operator or its guarantor may use self insurance to</p> |              |

<sup>30</sup> 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 so that they closely follow Class I hazardous waste well requirements. . . . EPA’s approach for the selection of 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.’”

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|   |  |                 | <p>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:</p> <p>(A) The owner or operator must have:<br/>Two of the following three ratios:<br/>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<br/>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<br/>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.</p> <p>(B) The owner or operator must have:<br/>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<br/>Tangible net worth at least six times the sum of the current well plugging, post injection site care and site closure cost estimate; and<br/>Tangible net worth of an amount approved by the Director; and<br/>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.</p> <p>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 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</p> |              |

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|    |   |                                     | <p>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.”</p>   |   |
| 49 | <p>Emily Sanford Fisher,<br/>Director, Legal Affairs,<br/>Energy and Environment/<br/>Edison Electric Institute/<br/>February 8, 2011</p> | <p>Ongoing<br/>Responsibilities</p> | <p>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.</p> <p>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.<sup>7</sup> 75 Fed. Reg. at 77272.<sup>31</sup></p> <p>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</p> | <p>EPA appreciates the information on availability of industry-funded trust funds for post-closure stewardship. However, EPA believes that the following passage from the Introduction of the Guidance sufficiently warns owners or operators that although the GS financial responsibility rule cannot require financial responsibility demonstrations after the post--injection site care and site closure phase, SDWA does not give EPA the authority to indefinitely release owners of operators from long term liability:</p> <p>“Although the owners or operators are not required to demonstrate financial responsibility after the post-injection site care period has ended, owners or operators are still financially liable for the site. Safe Drinking Water Act (SDWA) does not provide EPA with the authority to indefinitely release owners or operators from long-term responsibility for potential impacts to USDWs after the post-injection site care period has ended (e.g., for unanticipated migration that endangers a USDW). Under current SDWA provisions EPA does not have the authority to transfer liability from one entity to another.”</p> <p>EPA acknowledges the commenter’s request to clarify</p> |

<sup>31</sup> EPA has stated that it intends to propose in 2011 a conditional exemption from RCRA for certain CO2 injectates.

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|    |   |                             | <p>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> <p>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 postclosure 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.<sup>32</sup></p> | <p>the relationship between state-based trust funds and the rule.</p> <p>EPA notes that states with primacy have the option of using state-based trust funds for the purpose of addressing long-term costs and liabilities.</p>   |
| 50 | Michael H. Cochran,<br>Licensed Geologist, Chief,<br>Geology Section/<br>Kansas Department of<br>Health & Environment/<br>December 21, 2010 | Ongoing<br>Responsibilities | 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.  | <p>EPA recommends use of inflation factors based on indices related to GS activities. For example, the Engineering News Record (<a href="http://enr.construction.com/economics/current_costs/">http://enr.construction.com/economics/current_costs/</a>) provides a construction index.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA provided additional information regarding inflation factors to the discussion Ongoing Responsibilities (Chapter 8).</p> |
| 51 | Thomas W. Curtis, Deputy<br>Executive Director/<br>Government Affairs,<br>AWWA/<br>February 8, 2011   | Ongoing<br>Responsibilities | 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  | <p>EPA acknowledges the need for stakeholder outreach and agrees that this information should be included in the Guidance.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p>   |

<sup>32</sup> e.g., Kansas H.B. 2419 (2007) (creating CO2 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 CO2 geologic storage trust fund); North Dakota S.B. 2095, §§ 38-22-15, 38-22-16, 38-22-17 (2009) (providing for CO2 trust fund, title to CO2 and release/transfer of title/custody); and Wyoming H.B. 17, § 35-11-318(b) (2010) (creating Wyoming geologic sequestration 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”),

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|    |   |  | <p>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.</p> | <p>EPA added information regarding stakeholder outreach to the discussion of Director’s Review (Chapter 7).</p>   |
| 52 | <p>John V. Corra, Director/<br/>Wyoming Department of<br/>Environmental Quality/<br/>February 7, 2011</p> | <p>Post-Injection<br/>Site Care and<br/>Site Closure</p> | <p><b>Reclamation Costs</b><br/>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 time line implications which should be considered by the owner or operator at the outset of the project.</p>   | <p>The Guidance recommends that the “the owner or operator consider the financial responsibility demonstration at the onset of the project – during siting and Area of Review. Concurrently, the owner or operator should consider estimating the costs of corrective action, injection well plugging, post-injection site care and site closure, and emergency and remedial response.” Moreover, the Guidance includes land reclamation as part of its plugging and abandonment checklist in Appendix C. Specifics on cost estimation are not included in the main body of the document.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA indicated in the discussion of Financial Responsibility Demonstrations (Chapter 2) that more complete lists of requirements can be found in Appendix C.</p> |
| 53 | <p>John V. Corra, Director/<br/>Wyoming Department of<br/>Environmental Quality/<br/>February 7, 2011</p> | <p>Post-Injection<br/>Site Care and<br/>Site Closure</p> | <p><b>Conclusion of Post-Injection Care Period</b><br/>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.</p>  | <p>EPA acknowledges the commenter’s concerns, but notes that they fall outside the scope of this public comment period for the Guidance. EPA re-emphasizes that the Director can extend the period of post-injection site care beyond 50 years. Furthermore, the rule does not release owner or operator from liability after the post-injection site care and closure phase, and this is explained in the Introduction (Chapter 1) of the Guidance:</p> <p>“Although the owners or operators are not required to demonstrate financial responsibility after the post-</p>  |

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|    |  |  |  | <p>injection site care period has ended, owners or operators are still financially liable for the site. Safe Drinking Water Act (SDWA) does not provide EPA with the authority to indefinitely release owners or operators from long-term responsibility for potential impacts to USDWs after the post-injection site care period has ended (e.g., for unanticipated migration that endangers a USDW). Under current SDWA provisions EPA does not have the authority to transfer liability from one entity to another.”</p>  |
| 54 | <p>Thomas W. Curtis, Deputy Executive Director/<br/>Government Affairs,<br/>AWWA/<br/>February 8, 2011</p> | <p>Post-Injection Site Care and Site Closure</p> | <p>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.</p> | <p>EPA acknowledges these concerns, but also notes that they fall outside the scope of this public comment period for the Guidance. EPA re-emphasizes that the Director can extend the period of post-injection site care beyond 50 years. Furthermore, the Class VI rule does not release the owner or operator from liability after the post-injection site care and closure phase, and this is explained in the Introduction (Chapter 1) of the Guidance:</p> <p>“Although the owners or operators are not required to demonstrate financial responsibility after the post-injection site care period has ended, owners or operators are still financially liable for the site. Safe Drinking Water Act (SDWA) does not provide EPA with the authority to indefinitely release owners or operators from long-term responsibility for potential impacts to USDWs after the post-injection site care period has ended (e.g., for unanticipated migration that endangers a USDW). Under current SDWA provisions EPA does not have the authority to transfer liability from one entity to another.”</p> <p>EPA acknowledges the need for stakeholder outreach and agrees that this information should be included in the Guidance.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> |

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|    |  |  |   | EPA added information regarding stakeholder outreach to the discussion of Director’s Review (Chapter 7).   |
| 55 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011                                    | Purpose and<br>Disclaimer  | 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.   | EPA acknowledges that the Purpose and Disclaimer at the beginning of the Guidance is important in ensuring that the distinction between rule requirements and Guidance recommendations is not overlooked or misunderstood.   |
| 56 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Recommended<br>Financial<br>Responsibility<br>Instrument<br>Language | <p>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.</p> <p>G. EPA Should Clarify that Model Language for Financial Instruments is Meant to Be Instructive, Not Binding.<br/>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. The 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.</p> <p>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</p> | <p>The title of Appendix B, “Recommended Financial Responsibility Instrument Language for Class VI GS Wells (Forms/Templates),” emphasizes that language used in the Appendices is not required, but is a recommendation. The language in these forms is intended to help ensure that all information required by the rule is included in the agreement. In addition, the forms/templates include Guidance recommendations. The Guidance provides recommendations based on EPA’s current understanding of the best approach considering (1) the potential for instrument failure, to help ensure that costs from abandoned GS projects are not borne by the general public, and (2) the resource implications for owners or operators and Directors.</p> <p>The template language for most instruments in Appendix B is adapted from language in 40 CFR 144.70 (Class I hazardous waste well requirements). For instruments where there is no instrument language precedent, language was based on agreements currently used by states.</p> <p>To address this comment, EPA has made the following update to the Guidance:<br/>EPA clarified the appropriate use of the forms in Recommended Financial Responsibility Instrument Language for Class VI GS Wells (Appendix B)</p> |

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|    |   |                               | <p>Class VI Rule, and is a term that would be negotiated and agreed upon by the parties to the trust agreement.</p> <p>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. 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. § 46.85(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.</p> |   |
| 57 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011 | Recommended<br>Instrument Use | <p>Acceptable Financial Assurance Instruments</p> <p>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.</p>   | <p>Chapter 4 of the Guidance addresses how to most appropriately match instruments to specific project activities. EPA agrees that it would be beneficial to include information emphasizing the importance of choosing the most appropriate combination of instruments when multiple instruments will cover one GS phase.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA added text to the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) to emphasize the importance of combining multiple instruments in a way that is most appropriate for specific GS project activities.</p> |
| 58 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011     | Recommended<br>Instrument Use | <p>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</p>  | <p>EPA agrees that the financial responsibility demonstration is a current indication of an ability to cover projected future costs and recognizes the potential benefits which make self insurance attractive to owners or operators. However, EPA believes that there is a greater risk of instrument failure for self insurance in the post-injection site care period because the injection well</p>  |

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|    |  |                                       | <p>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.</p>  | <p>is no longer in operation and profitable, therefore the site represents an ongoing liability. While the requirement for annual reviews of financial responsibility demonstrations mitigates some risk of instrument failure, EPA believes that substituting a new instrument for a failed self insurance demonstration during this period will be difficult or impossible.</p>   |
| 59 | <p>Robert F. Van Voorhees,<br/>Manager/<br/>Carbon Sequestration<br/>Council/<br/>February 7, 2011</p>         | <p>Recommended<br/>Instrument Use</p> | <p>Rankings – Consistent with the foregoing comment [see Comment # 29], 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.</p> <p>Requests and recommendations for revision of the draft Financial Responsibility Guidance:<br/>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.</p> | <p>EPA recognizes that the purpose of the numbering used in Table 4 is insufficiently explained. The numbers used in Table 4 of the Guidance are intended to rank the various instruments based on the various GS project activities. EPA thoroughly researched recommendations in the Guidance based on comments to the proposed rule; public financial responsibility Web casts held in spring 2009; and publicly available literature, including peer-reviewed journal articles and government and non-government reports.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA added text to the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) to emphasize that Table 4 provides a relative ranking of the suitability of financial instruments for different GS activities.</p> |
| 60 | <p>Thomas W. Curtis, Deputy<br/>Executive Director/<br/>Government Affairs,<br/>AWWA/<br/>February 8, 2011</p> | <p>Recommended<br/>Instrument Use</p> | <p>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.</p>   | <p>EPA acknowledges that there are distinct needs and characteristics for separate phases of GS projects best suited by specific financial instruments. As stated in the Purpose and Disclaimer, the Guidance makes suggestions and offers alternatives that go beyond the minimum requirements indicated by the rule, but could be helpful for implementation efforts. Therefore, information is included in the Guidance, such as Table 1, to help illustrate the details of financial responsibility that are required to meet all conditions specified by rule.</p>   |
| 61 | <p>Emily Sanford Fisher,<br/>Director, Legal Affairs,</p>  | <p>Self Insurance</p>                 | <p>With respect to self-insurance, revised Guidance should not foreclose this option by imposing more stringent financial tests than in other</p>  | <p>The Guidance includes both requirements and recommendations for self insurance. Requirements listed</p>  |

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|    | Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011                   |                 | UIC or environmental rules.  | <p>in the Guidance come directly from the rule. Recommended Specifications listed in the Guidance are based on both historical precedence in other UIC and environmental rules as well as the risks and predicted costs expected for GS projects.</p> <p>The self insurance specifications in both the rule and the Guidance are consistent with the approach recommended by the Environmental Financial Advisory Board (EFAB). Information on EFAB's recommendations, as well as analysis and rationale for the recommendations in the Guidance, are available in the Supporting Research and Analysis document that accompanies the Guidance, particularly in Chapters 7 and 8.</p> |
| 62 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011 | Self Insurance  | <p>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.</p> <p>Requests and recommendations for revision of the draft Financial Responsibility Guidance:<br/>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."</p> | <p>EPA agrees that the statement "At the Director's discretion, the owner or operator might be required to pass both the financial ratio and bond rating test" is inconsistent with the rule under 40 CFR 146.85 and could cause confusion in understanding the compliance obligations established by the rule.</p> <p>To address this comment, EPA has made the following update to the Guidance:<br/>EPA clarified the Director's role using language more consistent with the rule under 40 CFR 146.85.</p>  |
| 63 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration                                 | Self Insurance  | 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  | EPA notes that although the extent of the risk varies among instruments, adverse conditions resulting from owner or operator failure, market volatility, third-party  |

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|    | Council/<br>February 7, 2011   |                 | <p>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.</p> <p>Requests and recommendations for revision of the draft Financial Responsibility Guidance:<br/>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.</p> | <p>litigation, cost underestimation, and policy exclusions or limits may contribute to partial or total instrument failure. It was determined that self insurance poses the highest risk to the public after a rigorous research phase of the Guidance development process.</p> <p>Support for this claim can be found in the Supporting Research and Analysis document that accompanies the Guidance. In particular, this document notes that for third-party instruments, both the owner or operator and the third party must fail in order for the instrument to fail. In contrast, if the owner or operator becomes financially insolvent (e.g., bankrupt), then self insurance immediately fails.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA clarified the statement that self insurance poses the highest risk to the public in the discussion Director’s Review (Chapter 4).</p>         |
| 64 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Self-Insurance  | <p>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.</p>   | <p>EPA notes that although the extent of the risk varies among instruments, adverse conditions resulting from owner or operator failure, market volatility, third-party litigation, cost underestimation, and policy exclusions or limits may contribute to partial or total instrument failure. EPA determined that self insurance poses the highest risk to the public after conducting a rigorous research phase of the Guidance development process.</p> <p>Support for this claim can be found in the Supporting Research and Analysis document that accompanies the Guidance. In particular, this document notes that for third-party instruments, both the owner or operator and the third party must fail in order for the instrument to fail. In contrast, if the owner or operator becomes financially insolvent (e.g., bankrupt), then self insurance immediately fails.</p> <p>To address this comment, EPA has made the following</p> |

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|    |  |                 |  | <p>update to the Guidance:</p> <p>EPA clarified the statement that self insurance poses the highest risk to the public in the discussion Director’s Review (Chapter 4).</p>   |
| 65 | Emily Sanford Fisher,<br>Director, Legal Affairs,<br>Energy and Environment/<br>Edison Electric Institute/<br>February 8, 2011 | Self-Insurance  | <p>E. Self-Insurance Should Be an Option in the PISC Period.<br/>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).</p> <p>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.</p> | <p>EPA disagrees that the recommendation to limit the use of self insurance in the post-injection site care period eliminates it as an option. EPA recognizes the potential benefits which make self insurance attractive to owners or operators. However, EPA believes that there is a greater risk of instrument failure for self insurance in the post-injection site care and site closure period because the injection well is no longer in operation and profitable, therefore the site represents an ongoing liability. While the requirement for annual reviews of financial responsibility demonstrations mitigates some risk of instrument failure, EPA believes that substituting a new instrument for a failed self insurance demonstration during this period will be difficult or impossible.</p> |
| 66 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/  | Self-Insurance  | <p>There is a foot note in the appendices referencing that self-insurance is not advised in the post-injection site care phase. This is should be highlighted in the body of the report as an example of a mismatch in</p>   | <p>EPA agrees that self insurance is not recommended for the post injection site care and site closure phases. EPA recognizes the potential benefits which make self</p>  |

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|    | February 7, 2011   |                 | <p>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.</p> <p>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.</p> | <p>insurance attractive to owners or operators. However, EPA believes that there is a greater risk of instrument failure for self insurance in the post-injection site care and site closure period because the injection well is no longer in operation and profitable, therefore the site represents an ongoing liability. While the requirement for annual reviews of financial responsibility demonstrations mitigates some risk of instrument failure, EPA believes that substituting a new instrument for a failed self insurance demonstration during this period will be difficult or impossible.</p> <p>The research phase of the Guidance development did not specifically address insurance costs based on damage estimates. The Guidance acknowledges in the Disclaimer for Appendix C, “This is guidance only. It provides examples of cost considerations or activities that may need to be performed to satisfy the requirements of the GS regulation. It may not include all necessary costs.” EPA agrees, however, that damage estimates may play an important role in bond calculations and should be mentioned in the template.</p> <p>To address this comment, EPA has made the following updates to the Guidance:</p> <ol style="list-style-type: none"> <li>1. EPA added to the discussions in Chapters 4 and 7 to describe its concerns on the use of self insurance as a financial demonstration during post-injection site care and site closure phase of GS project.</li> <li>2. EPA added a footnote for Table 3 of Appendix C suggesting that it is more likely that insurance for improbable but sizeable risk events be based on damage estimates rather than the number of wells.</li> </ol> |
| 67 | Barclay Rogers, Director of Development/<br>C12 Energy, Inc./<br>March 9, 2011 | Trust Funds     | <p>The UIC Rules provide that:</p> <p>(1) The qualifying instrument(s) used must be from the following list of qualifying instruments.</p> <p>(i) Trust funds</p> <p>(ii) Surety Bonds</p>   | <p>EPA acknowledges that the rule does not require a pay-in period for qualifying instruments, and that a longer pay-in period may be desirable to owners or operators since it could allow them to manage financial responsibility over time with less up-front capital.</p>   |

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|   |  |                 | <p>(iii) Letter of Credit<br/>                     (iv) Insurance<br/>                     (v) Self Insurance (i.e., Financial Test and Corporate Guarantee)<br/>                     (vi) Escrow Account<br/>                     (vii) Any other instrument(s) satisfactory to the Director.</p> <p>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 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<sub>2</sub> storage project (e.g., 20-30 years), and interest payments be recognized as an appropriate method for building the trust fund.</p> <p>Pay-In Periods<br/>                     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.”<sup>33</sup></p> <p>We strongly suggest a default pay-in period of the operating life of the CO<sub>2</sub> 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<sub>2</sub> storage project involving injection of 2.5 Mt- CO<sub>2</sub>/year for the requisite 50-year period is approximately \$20 million.<sup>34</sup> To accumulate \$20 million over a 3-year period, one would have to set aside \$6.67 million/year or \$2.67/t- CO<sub>2</sub>. 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<sub>2</sub> storage infeasible. Such large initial set-asides are also inconsistent with the</p> | <p>However, EPA’s research suggests that longer pay-in periods create a greater risk of instrument failure and that shorter pay-in periods are preferable. Support of this claim can be found in the Supporting Research and Analysis document that accompanies the Guidance. EPA intends that the primary goal of rule requirements and recommendations made in the Guidance be protective of USDWs.</p> <p>Furthermore, the third party provider of some instruments, such as insurance, may require fully funded premiums, a corollary to not allowing any pay-in period. Use of multiple instruments, as listed in the Guidance, or additional third party financing options, such as loans, can help reduce the upfront costs of a demonstration.</p> <p>EPA thoroughly researched recommendations in the Guidance based on comments to the proposed rule; public financial responsibility Web casts held in spring 2009; and publicly available literature, including peer-reviewed journal articles and government and non-government reports. This research addressed specific questions and issues important to stakeholders and can be found in the Supporting Research and Analysis document that accompanies the Guidance.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA changed its recommendation of three year pay-in periods in the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) and the discussion Conditions of Coverage and Specifications for Financial Responsibility</p> |

<sup>33</sup> Draft Financial Responsibility Guidance, p. 29.

<sup>34</sup> 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.

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|   |  |                 | <p>general discussion around trust fund accumulation, which focuses on set-asides on the order of \$0.10/t- CO<sub>2</sub>.</p> <p>Interest Accumulation<br/>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.”<sup>35</sup> The Guidance further states that:</p> <p>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).<sup>36</sup></p> <p>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 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<sub>2</sub> operator.</p> <p>Such an approach would result in an extremely inefficient deployment of capital and thus make commercial-scale CO<sub>2</sub> 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.</p> <p>If a CO<sub>2</sub> storage operator or third party entity were required to deposit sufficient funds to cover the entirety of anticipated expenses</p> | <p>Demonstrations (Chapter 5) to a recommendation for use of the shortest appropriate pay-in period.</p> |

<sup>35</sup> Draft Financial Responsibility Guidance, p. 14.

<sup>36</sup> Draft Financial Responsibility Guidance, p. 15.

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|   |  |                 | <p>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.<sup>37</sup> As noted above, these returns are much lower than the returns the private sector must achieve to survive.<sup>38</sup> 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.</p> <p>A much better approach is to allow the CO<sub>2</sub> 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.<sup>39</sup> Similar to present value discounting, the CO<sub>2</sub> 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.</p> <p>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.</p> <ul style="list-style-type: none"> <li>• If the CO<sub>2</sub> 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).<sup>40</sup> However, if the CO<sub>2</sub> 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).<sup>41</sup> Consequently, the CO<sub>2</sub> storage operator would incur an annual “penalty” of \$1.4 million, corresponding to a total penalty of \$112 million (assuming a 30 year project</li> </ul> |              |

<sup>37</sup> 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.

<sup>38</sup> It is irrelevant that the CO<sub>2</sub> 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<sub>2</sub> storage operator must achieve to survive in the private sector.

<sup>39</sup> This approach is identical to the present value discounting approach discussed above, assuming the trust fund interest rate and discounting rate are the same.

<sup>40</sup> 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.

<sup>41</sup> 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.

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|   |  |                 | <p>operating life and a 50 year monitoring period).</p> <ul style="list-style-type: none"> <li>• If the CO<sub>2</sub> 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<sub>2</sub> 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).</li> <li>• If the CO<sub>2</sub> 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<sub>2</sub> storage operator would incur an annual “penalty” of \$15,000, corresponding to a total penalty of \$300,000 (assuming a 20 year pay-in).<sup>42</sup></li> </ul> <p>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).<sup>43</sup> 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<sub>2</sub> storage infeasible.</p> <p>We strongly encourage the EPA to review the financial assurance mechanisms for hazardous waste facilities under the Resource Conservation and Recovery Act (RCRA).<sup>44</sup> It’s worth noting that the</p> |              |

<sup>42</sup> 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<sub>2</sub> storage operator would incur an annual „penalty” of \$19,000, corresponding to a total penalty of \$380,000 (assuming a 20 year pay-in).

<sup>43</sup> 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.

<sup>44</sup> See 40 CFR Part 264, Subpart H.

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|    |  |                 | RCRA financial assurance guidelines expressly authorize the use of pay-in periods for the operating life of the facility. <sup>45</sup> It also appears that the RCRA requirements allow for the accumulation of interest as a means for building the trust fund.   |  |
| 68 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011 | Trust Funds     | <p>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.</p> <p>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.</p> | <p>EPA acknowledges that a pay-in period may be beneficial to small operators since it could allow them to manage financial responsibility over time with less capital. However, such pay-in periods also increase the risk and uncertainty associated with the financial responsibility instrument. EPA’s research suggests that longer pay-in periods create a greater risk of instrument failure and that shorter pay-in periods are preferable. Support of this claim can be found in the Supporting Research and Analysis document that accompanies the Guidance.</p> <p>Furthermore, the third-party provider of some instruments, such as insurance, may require fully funded premiums, a corollary to not allowing any pay-in period. Use of multiple instruments, as listed in the Guidance, or additional third party financing options, such as loans, can help reduce the upfront costs of a demonstration.</p> <p>EPA thoroughly researched recommendations in the Guidance based on comments to the proposed rule; public financial responsibility Web casts held in spring 2009; and publicly available literature, including peer-reviewed journal articles and government and non-government reports. This research addressed specific questions and issues important to stakeholders and can be found in the Supporting Research and Analysis document that accompanies the Guidance.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> |

<sup>45</sup> 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 over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the “pay-in period”).

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|    |   |                 |   | EPA changed its recommendation of three year pay-in periods in the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) and the discussion Conditions of Coverage and Specifications for Financial Responsibility Demonstrations (Chapter 5) to a recommendation for use of the shortest appropriate pay-in periods. |
| 69 | John V. Corra, Director/<br>Wyoming Department of<br>Environmental Quality/<br>February 7, 2011 | Trust Funds     | <p>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).</p> <p>Wyoming envisioned a Trust Fund that would provide for corrective actions and delimit 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 in formation. 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.</p> <p>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</p> | EPA appreciates Wyoming DEQ's insights into actions that could increase the availability and affordability of trust funds. EPA acknowledges that some states with primacy may choose to develop state-wide trust funds as an affordable instrument within their state.   |

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|    |   |  | structure, (4) potential for competing claims for payment which may reduce sufficiency of fund assets available as financial assurance.   |   |
| 70 | Thomas W. Curtis, Deputy<br>Executive Director/<br>Government Affairs,<br>AWWA/<br>February 8, 2011 | Trust Funds  | 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.  | <p>EPA acknowledges that trust funds are not best suited for activities of uncertain frequency and cost, such as emergency and remedial responses, since the trust is not likely to have the right amount of funds.</p> <p>Additional funds required by the Director after an annual review must be obtained within 60 days of the determination of an increase in the cost estimate (40 CFR 146.85(c)(4)). Therefore, the Guidance cannot suggest an alternate pay-in period.</p> <p>To address this comment, EPA has made the following update to the Guidance:</p> <p>EPA changed its recommendation of three year pay-in periods in the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) and the discussion Conditions of Coverage and Specifications for Financial Responsibility Demonstrations (Chapter 5) to a recommendation for use of the shortest appropriate pay-in periods.</p> |
| 71 | Barclay Rogers, Director of<br>Development/<br>C12 Energy, Inc./<br>March 9, 2011                   | Use of Multiple<br>Instruments /<br>Other<br>Instruments | <p>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.</p> <p>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</p> | <p>The Guidance presents payment bonds as one of the two surety bond structures, but uses the terminology “financial guarantee” rather than “payment.” The terminology is defined on in the discussion Introduction to Qualifying Financial Responsibility Instruments (Chapter 3) of the Guidance:</p> <p>The Guidance also suggests the potential of an annuity financial structure in the discussion Conditions of Coverage and Specifications for Financial Responsibility Demonstrations (Chapter 4).</p> <p>EPA also re-emphasizes that the instruments discussed in the Guidance are intended to coincide with those</p>   |

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|    |   |  | provide at the time scales associated with a CO <sub>2</sub> storage project (e.g., well plugging at Year 30). <sup>46</sup> Annuities and payment bonds may be available from the commercial sector at the time scales for CO <sub>2</sub> storage projects.   | listed in the rule. EPA acknowledges that instruments other than those specifically discussed in the Guidance may be appropriate for a GS project depending on the project's location and the evolution of financial markets for the GS industry. For this reason, both the rule and Guidance note that any instrument not specifically discussed could be used for a demonstration so long as it meets the protective conditions set forth in the rule to the satisfaction of the Director   |
| 72 | Fred Eames/<br>Hunton and Williams,<br>CCS Alliance/<br>February 8, 2011                    | Use of Multiple<br>Instruments /<br>Other<br>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.  | EPA acknowledges that allowing use of multiple instruments will help owners and operators match the most appropriate financial responsibility instruments to each phase of their GS project. Furthermore, other instruments may be appropriate for a GS project depending on the project's location and the introduction of more widely available or appropriate instruments as financial markets adapt to GS industry in the future.<br><br>To address this comment, EPA has made the following update to the Guidance:<br><br>EPA added to the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) to emphasize the importance of combining multiple instruments in a way that is most appropriate for specific GS project activities. |
| 73 | Robert F. Van Voorhees,<br>Manager/<br>Carbon Sequestration<br>Council/<br>February 7, 2011 | Use of Multiple<br>Instruments /<br>Other<br>Instruments | 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. | EPA acknowledges that allowing use of multiple instruments will help owners and operators match the most appropriate financial responsibility instruments to each phase of their GS project. Furthermore, other instruments may be appropriate for a GS project depending on the project's location and the introduction of more widely available or appropriate instruments as financial markets adapt to GS industry in the future.<br><br>To address this comment, EPA has made the following update to the Guidance:  |

<sup>46</sup> Draft Financial Responsibility Guidance, p. 32.

EPA Response to Official Comments on Draft Guidance for Financial Responsibility for Geologic Sequestration of Carbon Dioxide

| # | Commenter/ Affiliation/<br>Date Comment Received | Comment<br>Type | Comment   | EPA Response   |
|---|--|-----------------|---|--|
|   |  |                 | <p>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.”<sup>47</sup> 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.</p> | <p>EPA added to the discussion Matching Financial Instruments to Meet the Specific Needs of a GS Project (Chapter 4) to emphasize the importance of combining multiple instruments in a way that is most appropriate for specific GS project activities.</p> |

<sup>47</sup> EFAB, “Financial Assurance for Underground Carbon Sequestration Facilities” at 5 (March 2010) (Attachment A)

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## Chapter 2: GS Financial Responsibility Listening Session Notes

### Geologic Sequestration Financial Responsibility Listening Session at Ground Water Protection Council (GWPC) Underground Injection Control (UIC) Meeting

January 24, 2011 – 5:00pm  
Radisson Hotel – Austin, Texas

#### Meeting Purpose

“to gain a fuller understanding of the draft guidance, the underlying policies, and its place within the implementation process” (January 6, 2011 Carbon Sequestration Council letter)

#### Agenda

1. EPA Introduction
  - a. Overview of Guidance development (for details see: Research and Analysis in Support of the UIC Class VI Program: Financial Responsibility Requirements and Guidance PDF (EPA 816-R-10-017, Dec 2010)
    - i. Information sharing webcasts in April and May 2009
    - ii. Research and analysis
      1. Financial responsibility instruments
      2. Evaluations of third-party stability
      3. Self-insurance options
      4. Tangible net worth
    - iii. Instrument selection
      1. Presentation and state input at GWPC (January 2010)
    - iv. Guidance development
      1. Drafting
      2. Internal EPA review
      3. Expert review (May 2010)  
*Jim Boyd (Resources for the Future), Randy Martin (American Electric Power), Brian White (Illinois EPA), Jimmy Sparks (Mississippi DEQ), Leslie Savage (Texas RRC)*
      4. Guidance revisions
      5. Internal EPA review
  - b. Public comment period December 10, 2010 to February 8, 2011
  - c. Guidance finalization
2. Listening Session

**EPA IS NOT ACCEPTING FORMAL COMMENTS THROUGH THIS MEETING.**

To post a comment, send an email to [GSRuleGuidanceComments@epa.gov](mailto:GSRuleGuidanceComments@epa.gov). Acceptable attachments should be submitted via Microsoft Word or Adobe PDF files.

The open comment period for the Underground Injection Control (UIC) Class VI Program: Financial Responsibility Guidance (EPA 816-D-10-010, Dec 2010) is from December 10, 2010 to February 8, 2011.

## Meeting Attendees

Bob Van Voorheess – Carbon Sequestration Council  
Scott Anderson – Environmental Defense Fund  
Kevin Frederick – Wyoming Department of Environmental Quality  
Al Collins – Occidental Petroleum Corp.  
Edmonds – Conoco Phillips  
Josh Perry – National Resources Defense Council  
Mike Parker – ExxonMobil  
Alison Cook – BP Exploration (Alaska) Inc.  
Andrew Duguid – Slumberger

Joe Tiago – USEPA  
Anne Codrington – USEPA  
Bruce Kobelski – USEPA

Charles Hernick – The Cadmus Group, Inc.

## Listening Session Notes

- EPA stated that its obligation to respond to comments on the Guidance is different than its obligation to respond to comments on the rule. The level of detail for Guidance comment responses will depend on the number and scope of comments received.
- Meeting attendees noted that the financial responsibility requirements under the proposed rule looked a lot like Class II requirements for financial responsibility, however the final rule more closely resembles Class I requirements.
- Meeting attendees noted that there seems to be an inconsistency between the rule and the Guidance as it relates to the net working capital requirement as it is defined in the appendix.
  - Appendix B tracks more closely with Class I than with the Class VI approach.
- Meeting attendees noted that there is an automatic categorization of captive insurers as self insurers and they asked if this was intentional.
  - EPA noted that the Environmental Finance Advisory Board (EFAB), and EPA Office of Inspector General (OIG) reported that captive insurance was not able to diversify risk in the same manner as independent third-party insurance.
- Meeting attendees asked if EPA considered mutual insurers to be the same as captive insurers.
- Meeting attendees asked why monitoring during injection does not require financial responsibility.
- Meeting attendees emphasized that the business model for geologic sequestration is based on the ongoing profitable injection of CO<sub>2</sub>, therefore if there is a financial problem by the owner or operator, then who will operate the site? EPA, or another owner or operator?
  - EPA emphasized that the rule is not intended to promote GS.

- Meeting attendees stated that the monitoring program is crucial to the success of the project. If there is leakage at any point, including during transfer between an owner or operator, then there is additional risk.
- Meeting attendees noted that the Guidance expresses a general concern about self-insurance.
  - Is there any way to make the GS self-insurance program more like other programs that successfully use self-insurance?
  - EPA noted that the concerns about self-insurance described in the Guidance were consistent with those expressed by EPA OIG and the Government Accountability Office (GAO).
- There are some upcoming studies that indicate that the most likely emergency and remedial response (ERR) scenario will be \$50 million.
- EPA noted that there was a lot discussion about self-insurance internally at EPA to inform the rule and Guidance. EPA noted that there are fundamental differences between what is allowed for financial assurance under the programs administered by the Office of Solid Waste and Emergency Response (OSWER) Office of Resource Conservation and Recovery (ORCR) compared to what is required under the Class VI rule.
  - EPA noted that previous self-insurance analyses differed in philosophy. The focus of previous analyses' objectives was twofold: (1) maximize the availability of the financial test in order to minimize the costs to regulated firms of obtaining alternative financial instruments, and (2) minimize the number of firms allowed to use the test that later go bankrupt without covering their environmental obligations, thereby minimizing the costs borne by the public to cover obligations of bankrupt firms. In contrast, the objective of the tangible net worth recommendation in the Class VI Guidance is to identify a value that assures that the risk born by the public from a self-insured owner or operator is no greater than the riskiest scenario under independent third-party instruments.
- If there is a disruption of the monitoring plan during the transfer of a site between one owner or operator and another then there could be negative environmental impacts.
- Meeting attendees noted that the Guidance was educational and informative.
- Meeting attendees asked if the order of the instruments in Table 4 was a ranking. Is #1 the best suited instrument from EPA's perspective? Or are they in the order of their discussion in the document? Meeting attendees stated that they could be listed without numbers or EPA could remove the word "relative" in the title and introductory paragraph.