



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

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OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable John Shimkus, Chairman
Subcommittee on Environment and the Economy
Committee on Energy and Commerce
U.S. House of Representatives
Washington, DC 20515

Dear Chairman Shimkus:

Thank you for your letter of April 29, 2013, requesting responses to Questions for the Record following the April 11, 2013, hearing before the Subcommittee on Environment and the Economy entitled, "The Coal Ash Recycling and Oversight Act of 2013."

The responses to the questions are provided as an enclosure to this letter. If you have any further questions, please contact me or your staff may contact Carolyn Levine in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-1859.

Sincerely,

A handwritten signature in blue ink that reads "Laura Vaught".

Laura Vaught
Deputy Associate Administrator
for Congressional Affairs

Enclosure

cc: The Honorable Paul Tonko, Ranking Member
Subcommittee on Environment and the Economy

U.S. EPA RESPONSES TO QUESTIONS FOR THE RECORD
From the April 11, 2013 Hearing On
“The Coal Ash Recycling and Oversight Act of 2013”
Before the Subcommittee on Environment and Economy
Committee on Energy and Commerce
U.S. House of Representatives

Rep. Latta

Q1. Do you agree that the bill includes all of the constituents identified by the EPA as being of concern for coal ash?

We believe that the proper management of CCRs should include clear requirements that address risks associated with coal ash disposal and management, consideration of the best science and data available, adequate evaluation of structural integrity, protective solutions for existing as well as new facilities, and appropriate public information and comment.

The Discussion Draft contains provisions that address specific contaminants, particularly the requirement to monitor for the contaminants listed in 40 CFR Part 258. This requirement does address the contaminants that were specifically listed in the EPA’s 2010 proposed regulation.

Q2. Doesn’t the bill set a timeline for meeting the groundwater protection standards for surface impoundments that are incorrective?

The Discussion Draft includes a provision that establishes a timeline for a limited subset of surface impoundments to meet the groundwater protections standards. However, with one narrow exception¹, states are authorized to extend the 8-10 year cleanup deadlines without any time limits, which could potentially pose additional risk to human health and the environment. The requirements in subsection (c)(4) do not apply to any other surface impoundment (e.g., a clay-lined unit that is currently leaking, but not currently subject to a state corrective action requirement), or to any landfills.

Q3. Does the bill require financial assurance?

The Discussion Draft appears to require a state permit program to require financial assurance as currently described in subpart G of 40 CFR Part 258. The requirements apply only to units that receive CCRs after date of enactment of the legislation.

¹ States may not extend the clean up deadlines if there has been contamination of public or private drinking water systems attributable to a surface impoundment undergoing corrective action, unless the contamination has been addressed by providing a permanent replacement water system.

Rep. Johnson

Q1. Does CERCLA give EPA the authority to address inactive or abandoned impoundments or units?

CERCLA provides the EPA with the authority to respond to releases and threatened releases of hazardous substances and pollutants and contaminants from inactive or abandoned impoundments or units that pose an imminent and substantial endangerment to public health or the environment. CERCLA generally would not provide the EPA authority to establish preventive measures on a nationwide basis, e.g., closure requirements. Also, using CERCLA to address such units could shift the financial burden away from those responsible for contamination to the public taxpayers.

Q2. Also, Mr. Stanislaus, following Kingston, EPA inspected coal ash impoundments, some 600 of them, in fact, to make sure that they are structurally sound. You hired independent contractors who in the agency's own view are experts in the area of dam integrity. Do you agree with the findings of your staff that not a single coal ash impoundment was rated unsatisfactory and poses an immediate safety threat?

While it is true that no units were rated unsatisfactory, requiring emergency action, approximately 25% of the units were rated "poor."² The EPA has sent letters to the owners of the surface impoundments requesting that the deficiencies be remedied, but there is no law or regulation that requires the owners to do so. The owners voluntarily conducted the significant engineering studies to demonstrate whether the units were structurally sound. It is also important to note that these assessments were a one-time effort and a continuous monitoring program is necessary to verify structural integrity. Finally, please note that of the 144 units that have been rated "poor" to date, 11 were classified as high hazard and 69 were classified as significant hazard, meaning that in the event of a failure, loss of human life or damage to critical infrastructure is likely to occur.

Q3. Do you agree with the findings of your professional staff as well that the owners and operators of impoundments with identified deficiencies have responded responsibly by submitting response action plans?

Owners and operators have submitted action plans in response to final report recommendations. However, we would note that it is the responsibility of the owner or operator of the impoundments to implement the recommendations in the actions plans.

² EPA used five categories to rate the units: (1) *Satisfactory* (no existing or potential management unit safety deficiencies are recognized); (2) *Acceptable* (performance is expected under all applicable loading conditions (static, hydrologic, seismic) in accordance with the applicable criteria; minor maintenance items may be required); (3) *Fair* (acceptable performance is expected under all required loading conditions (static, hydrologic, seismic) in accordance with the applicable safety regulatory criteria; minor deficiencies may exist that require remedial action and/or secondary studies or investigations); (4) *Poor* (a management unit safety deficiency is recognized for a required loading condition (static, hydrologic, seismic) in accordance with the applicable dam safety regulatory criteria; remedial action is necessary or further critical studies or investigations are needed to identify any potential dam safety deficiencies); and (5) *Unsatisfactory* (considered unsafe; dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution; reservoir restrictions may be necessary).

Rep. Tonko

Q1. And EPA’s technical assistance states that under the previous language, dry landfills would not be required to comply with many of the operating criteria that currently apply to municipal solid waste and would be applied to coal ash under EPA’s proposed rule. Does this discussion draft fix that flaw with the previous proposal?

No. For example, the Discussion Draft does not incorporate all of the regulatory operating requirements now required of municipal solid waste landfills under RCRA.

Rep. Dingell

Q1. Do you believe this draft bill has the timelines and minimum legal standards of protection to ensure that proper program plans are implemented in the states? Yes or no.

With respect to timelines, the Discussion Draft available at the time this question was submitted included only one clear deadline for implementation of the substantive requirements: a deadline for states to require the installation of groundwater monitoring system (one year from a state’s certification—or no later than four years from enactment). Although section (c)(4) appears to establish deadlines to clean up or initiate closure for certain surface impoundments, with one narrow exception, states have unlimited authority to extend these deadlines without any limits.

A revised bill has since been developed that includes additional deadlines: a four-year deadline for states to require compliance with (a) surface impoundment inspections; (b) run-on and run-off controls, and (c) fugitive dust controls. In addition, the revised bill establishes a seven-year deadline for the issuance of final permits.

With respect to the minimum legal standards, we would note the conclusions in the March 19, 2013 Congressional Research Service (CRS) report, “Analysis of Recent Proposals to Amend the Resource Conservation and Recovery Act (RCRA) to Create a Coal Combustion Residuals Permit Program,” which concludes there are significant differences between this legislation and the approach used in the legislation applicable to municipal solid waste (MSW) programs. The report notes that the Discussion Draft establishes no formal role for the EPA and no direction to establish regulations or approve state programs. The CRS report concludes, among other things, that the approach in the legislation allows individual states to define key terms, such that states would define program applicability and the overall protections under the bill could vary from state to state; allows states to set their own deadlines for permit issuance and for compliance; and does not require state programs to meet a federal standard of protection.

Overall, we believe any final legislation needs to clearly address: (1) timelines for the implementation of state programs; (2) criteria, for the EPA to use to determine when a state program is deficient, (3) criteria for CCR unit structural integrity, (4) deadlines for closure of unlined or leaking units, including inactive or abandoned units, (5) the universe of CCR disposal units subject to a permit program, and (6) groundwater protection standards that address all constituents identified in H.R. 2218 that are contained in coal combustion residuals.

The EPA is available to provide further technical assistance to help ensure that the legislation includes necessary protections for human health and the environment.

Q2. Under EPA’s proposed rule to establish requirements to address this issue, in your testimony you said that EPA received nearly [a] half million public comments, solicited public data, started drafting a methodology to evaluate the beneficial uses. Under the legislative proposal before us, would EPA have the authority to gather public comments, technical data, or develop methodologies in the future to improve the implementation of the program proposed in the bill? Yes or no?

No. It appears that the EPA’s only role is to identify deficiencies in a state program after the state program has been implemented, or to implement a permit program for a state that chooses not to do so or that fails to address a program deficiency identified by the EPA. For example, certain provisions of the bill expressly restrict the EPA’s authority to take actions to improve implementation of the program proposed in the bill. This includes the deferral clause in section (i)(2)(A), which, according to H.R. Rep. 112-226, “prohibits the Administrator from promulgating any additional regulations to regulate coal combustion residuals.”

The EPA is available to provide further technical assistance to help ensure that legislation includes necessary protections for human health and the environment.

Q3. What four or five national standards do you believe should be specifically addressed and added to this legislation to ensure that there is national conformity amongst several states?

We believe any bill needs to clearly address defined timelines for the development and implementation of state programs; establish clear and strong criteria for the EPA to use to determine when a state program is deficient; establish criteria for CCR unit structural integrity; establish clear deadlines for closure of unlined or leaking units, including inactive or abandoned units, establish a clearly defined, nationally consistent universe of CCR disposal units, including large scale fill operations, which are akin to disposal, subject to a permit program and groundwater protection standards that address all constituents identified in H.R. 2218 that are contained in coal combustion residuals.

The EPA is available to provide further technical assistance to help ensure that the legislation includes necessary protections for human health and the environment.

Q4. Now do you believe this legislation as currently written would require these standards to be included in state program plans?

No, neither the Discussion Draft referred to in this question, nor the later introduced H.R. 2218, address all of these standards. The EPA stands ready to provide further technical assistance to help ensure that the legislation establishes a regulatory framework for managing CCRs in a nationally consistent manner that fully protects human health and the environment.

Rep. Capps

Q1. In technical assistance you provided to the committee last Congress, you identified multiple principal contaminants of concern in coal ash, including arsenic, cadmium, lead, mercury and many others. These heavy metals pose very serious threats to human health. Would you, for our hearing today, please identify briefly some of the health effects of these contaminants?

The Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs,³ the EPA Integrated Risk Information System (IRIS),⁴ and the Toxicology Data Network (TOXNET) of the National Institutes of Health⁵ are all sources of toxicological data on the hazardous constituents found in CCRs. For its proposed rule, the EPA identified potential constituents of concern associated with CCRs, including antimony, arsenic, barium, beryllium, cadmium, hexavalent chromium, lead, mercury, nickel, selenium, silver, and thallium. Based on the information in ATSDR's Tox FAQs, the EPA's IRIS system and TOXNET, the agency summarized the following significant health effects:

Antimony - Antimony is associated with altered glucose and cholesterol levels, myocardial effects, and spontaneous abortions. The EPA has set a limit of 145 ppb in lakes and streams to protect human health from the harmful effects of antimony taken in through water and contaminated fish and shellfish.⁶

Arsenic - Ingestion of arsenic has been shown to cause skin cancer and cancer in the liver, bladder and lungs.⁷

Barium - Barium has been found to potentially cause gastrointestinal disturbances and muscular weaknesses when people are exposed to it at levels above the EPA drinking water standards for relatively short periods of time.⁸

Beryllium - Beryllium can be harmful if you breathe it. If beryllium air levels are high enough (greater than 1,000 ug/m³), an acute condition can result. This condition resembles pneumonia and is called acute beryllium disease.⁹

Cadmium and Lead - Cadmium and lead have the following effects: kidney disease, lung disease, fragile bone, decreased nervous system function, high blood pressure, and anemia.¹⁰

Hexavalent Chromium - Hexavalent chromium has been shown to cause lung cancer when inhaled.¹¹

Mercury - Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus.¹²

Nickel - The most common harmful health effect of nickel in humans is an allergic reaction. Approximately 10-20% of the population is sensitive to nickel. The most common reaction is a skin rash at the site of contact. Less frequently, some people who are sensitive to nickel have asthma attacks following exposure to nickel. Some sensitized people react when they consume food or water containing nickel or breathe dust containing it.¹³

Selenium - Selenium is associated with selenosis.¹⁴

Silver - Exposure to high levels of silver for a long period of time may result in a condition called argyria, a blue-gray discoloration of the skin and other body tissues.¹⁵

Thallium - Thallium exposure is associated with hair loss, as well as nervous and reproductive system damage.¹⁶

³ <http://www.atsdr.cdc.gov/toxfaq.html>

⁴ http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showSubstanceList&list_type=alpha&view=B

⁵ <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>

⁶ *Ibid.*

⁷ ATSDR ToxFAQs. Available at: <http://www.atsdr.cdc.gov/toxfaq.html>

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ *Ibid.*

Additionally, several other adverse health effects associated with CCRs are the result of particulate matter inhalation due to dry CCR disposal. Human health effects for which the EPA is evaluating causality due to particulate matter exposure include (a) cardiovascular morbidity, (b) respiratory morbidity, (c) mortality, (d) reproductive effects, (e) developmental effects, and (f) cancer.¹⁷ The potential for and extent of adverse health effects due to fugitive dusts from dry CCR disposal was demonstrated in the 2009 EPA report “Inhalation of Fugitive Dust: A Screening Assessment of the Risks Posed by Coal Combustion Waste Landfills—DRAFT,” which is available in the EPA’s rule docket.¹⁸

Finally, injury to human health may result from catastrophic failures of surface impoundments where high hazard potential exists. As defined in the proposed rule, a high hazard potential surface impoundment was defined as a “surface impoundment where failure or mis-operation will probably cause loss of human life.” This definition follows the Hazard Potential Classification System for Dams, developed by the U.S. Army Corps of Engineers for the National Inventory of Dams.

Chairman Shimkus

Q1. Does CERCLA give EPA the authority to address inactive or abandoned coal ash impoundments/units? Why or Why not? Please explain.

a. Would EPA’s authority under CERCLA be sufficient to address any inactive or abandoned coal ash impoundments that may pose a threat to public health or welfare or the environment?

CERCLA provides the EPA with the authority to respond to releases and threatened releases of hazardous substances and pollutants and contaminants from inactive or abandoned coal ash impoundments/units that may pose an imminent and substantial endangerment to public health or the environment. CERCLA generally would not provide the EPA authority to establish preventive measures on a nationwide basis, e.g., closure requirements. In addition, using CERCLA to address such units could shift the financial burden away from those responsible for contamination to the public taxpayers.

Q2. From information gathered as part of the Steam Electric Power Generating effluent limitation guidelines rulemaking, does EPA have information regarding the *location* of coal ash impoundments?

a. Please be specific in your answer as to specifically what information EPA has requested and from whom.

In 2010, as part of its proposed effluent limitation guidelines and standards efforts, the EPA transmitted questionnaires to approximately 700 steam electric power plants to solicit information regarding wastewater, surface impoundment, and landfill operations. In Part A of the questionnaire (Question A3-2), the EPA requested the latitude and longitude of ponds in degrees, minutes, and seconds. This portion of the questionnaire was sent to all steam electric generating plants.

¹⁷ Source: EPA Office of Research & Development report “Integrated Science Assessment for Particulate Matter: First External Review Draft,” EPA/600/R-08/139, 2008.

¹⁸ www.regulations.gov Document ID: EPA-HQ-RCRA-2009-0640-0142

b. Please be specific about what information EPA currently has or expects to receive.

The EPA received responses from all the plants required to respond to Part A of the questionnaire, including the latitude and longitude of the ponds. The EPA does not expect to receive any additional responses to the questionnaire.

Q3. From information gathered as part of the Steam Electric power Generating effluent limitation guidelines rulemaking, does EPA currently have, for coal ash impoundments, specific information such as ground water monitoring data or other information regarding the performance of the unit?

a. Please be specific in your answer as to specifically what information EPA has requested and from whom.

In Part F of the EPA's 2009 Steam Electric Questionnaire (Questions F5-1 through F5-6), the EPA requested several pieces of information regarding the groundwater monitoring and performance of surface impoundments. This included whether the units performed groundwater monitoring, the year of the last monitoring event, average frequency of monitoring, number of times monitored in the past five years, whether and which constituents exceeded the MCL and/or state issued criteria, and whether and which constituents exceeded background concentrations. This portion of the questionnaire was sent to a subset of steam electric generating plants.

b. Please be specific about what information EPA currently has or expects to receive.

The EPA received responses from all of the plants required to respond to Part F of the questionnaire. Some plants claimed the responses as Confidential Business Information (CBI). The EPA is continuing to evaluate how to use this information due to these limitations. The EPA does not expect to receive any additional responses to the questionnaire.

Q4. How does EPA plan to coordinate the Steam Electric Power generating effluent limitation guidelines rulemaking and the rulemaking for Coal Combustion Residuals?

In the preamble to the proposed Steam Electric Power Generating effluent limitation guidelines (ELG) rulemaking, the EPA described its current thinking about how a final RCRA Coal Combustion Residuals (CCR) rule might be aligned and structured to account for any final ELG requirements. 78 Fed. Reg. 34,432, 34,441-34,442 (June 7, 2013). The EPA seeks to effectively coordinate any final RCRA requirements with the ELG requirements to minimize the overall complexity of these two regulatory structures, and facilitate implementation of engineering, financial and permitting activities. The EPA's approach would also be consistent with RCRA Section 1006(b) and with Executive Order 13563, "Improving Regulation and Regulatory Review" issued on January 18, 2011. The EPA's goal is to ensure that the two rules work together to effectively address the discharge of pollutants from steam electric generating facilities and the human health and environmental risks associated with the disposal of CCRs without creating avoidable or unnecessary burdens.

As described in the ELG preamble, the EPA is exploring two primary means of integrating the two rules: (1) through coordinating the design of any final substantive CCR regulatory requirements, and (2) through coordination of the timing and implementation of final rule requirements to provide

facilities with a reasonable timeline for implementation that allows for coordinated planning and protects electricity reliability for consumers.

Q5. Has EPA developed a risk assessment that supports a determination that coal ash should be regulated under subtitle C?

The EPA developed a risk assessment that supported a subtitle C regulation as part of the June 2010 proposed rule. The EPA solicited and received public comment on that risk assessment. As we have stated, however, both during and after the close of the public comment period, the EPA has received new information and data that have the potential to significantly affect the risk assessment. As the EPA recently explained in the Preamble to the proposed Steam Electric Power Generating effluent limitation guidelines, although a final risk assessment for the CCR rule has not been completed, reliance on the new data may have the potential to lower the risk assessment results by as much as an order of magnitude. If this proves to be the case, the EPA's current thinking is that the revised risks, coupled with the ELG requirements that the agency may promulgate, and the increased federal oversight such requirements could achieve, could provide strong support for a conclusion that regulation of CCR disposal under RCRA Subtitle D could be adequate.

Q6. RCRA typically requires an adequacy determination of State permit programs prior to State implementation. Do you see any value in having EPA review the adequacy of a State program after the State begins implementing it? Please explain why or why not.

Yes. The EPA's review would be beneficial to determine whether the states are adequately implementing the CCR permit program. However, the EPA's ability to conduct such a review would be predicated on having clear criteria for defining when a state program is deficient.

Q7. Please respond to the following questions in as much detail as possible. Please provide a detailed explanation of your answer:

a. Do you agree that the Discussion Draft contains a provision requiring liners?

Section (c)(2)(A) of the discussion draft requires new units and lateral expansions of existing units to meet the performance standard in 258.40. Although one provision in that regulation requires the installation of a composite liner, another provision allows states to authorize an alternative—including no liner at all—based on a determination that the alternative meets the regulatory performance standard. Also, the Discussion Draft imposes no requirements on inactive or abandoned units.

b. Do you agree that the Discussion Draft contains a provision requiring groundwater monitoring?

Section (c)(2)(B) requires that all "operating units (i.e., those that receive CCRs after enactment) meet the groundwater monitoring standards in subpart E of part 258. However, 40 CFR 258.50(b) allows states to suspend the groundwater monitoring system based on a determination that a performance standard has been met (i.e., demonstrate "no potential for migration from the unit to the uppermost aquifer.") Also, the Discussion Draft imposes no requirements on inactive or abandoned units.

c. Do you agree that the Discussion Draft has a deadline for the installation of groundwater monitoring?

The Discussion Draft appears to have such a deadline – one year after the state submits a certification, or, in other words, no later than four years after enactment for units that are currently operating (i.e., those that receive CCRs after enactment). The Discussion Draft imposes no requirements on inactive or abandoned units.

However in order to ensure effective implementation of groundwater protection, the time frames for implementation of the corrective action requirements (i.e. requirements to cleanup contaminated groundwater) are also relevant. The Discussion Draft includes no deadlines for permit issuance or for ensuring the clean up or closure of leaking units or contaminated sites.

A more recent version of the bill, H.R. 2218, (subsequent to the Discussion Draft that is the subject of this question) does establish a seven-year deadline for states to issue permits, but no deadlines for ensuring that leaking units are closed¹⁹ or that contaminated groundwater is remediated.

d. Do you agree that the Discussion Draft includes all of the constituents identified by EPA as being of concern for coal ash?

Section (c)(2)(B) of the Discussion Draft would require groundwater monitoring for the contaminants that were specifically listed in the EPA's 2010 proposed regulation.

e. Do you agree that the Discussion Draft sets a time limit for meeting groundwater protection standards for surface impoundments that are discovered to be leaking or are in corrective action on the date of enactment?

As discussed previously, although section (c)(4) appears to establish deadlines to clean up or initiate closure for certain surface impoundments, with one narrow exception, states have unlimited authority to extend these deadlines indefinitely. Nor does the Discussion Draft establish any deadline by which facilities must complete closure of such units. The Discussion Draft also imposes no requirements on inactive or abandoned units.

f. Do you agree that the Discussion Draft requires control of fugitive dust in the same manner as EPA did in the June 2010 Proposed Rule with the exception of the numeric limit?

Both the Discussion Draft and the EPA's proposed rule include a fugitive dust requirement. The primary difference between those requirements is that the EPA's June 2010 proposed rule included a specific numeric limit, while the discussion draft does not. Rather, the Discussion Draft requires that units not violate any applicable requirements developed under a State Implementation Plan (SIP) approved or promulgated by the Administrator pursuant to section 110 of the Clean Air Act.

¹⁹ Although subsection (c)(4) appears to establish deadlines to clean up or initiate closure for certain surface impoundments, with one narrow exception, states have unlimited authority to extend these deadlines without any limits.

g. Do you agree that the Discussion Draft requires financial assurance?

Section (c)(2)(G) of the discussion draft appears to require a state permit program to require financial assurance as currently described in subpart G of 40 CFR Part 258. The requirements apply only to units that receive CCRs after date of enactment of the legislation.

h. Do you agree that the Discussion Draft contains location restrictions for coal ash management and disposal units?

The Discussion Draft contains a provision at Section 4011 (c)(1)(C) labeled “Location” that requires that the base of the coal ash unit be located at least two feet above the upper limit of the water table. In addition, section (c)(2)(E) of the Discussion Draft includes different sets of location restrictions for new and existing structures. Subsection (i) requires new structures and lateral expansions of existing structures to comply with the location restrictions in 40 CFR 258.11-258.15. Existing structures that continue to operate after the date of enactment need only comply with the requirements relating to floodplains and unstable areas (40 CFR 258.11 and 258.15).

Under the Subtitle D option in the EPA’s June 2010 proposed rule, the EPA proposed standards that would restrict the location of new CCR landfills and impoundments (including lateral expansions) with respect to the location of the unit relative to the natural water table, to wetlands, fault areas, seismic impact zones, and unstable areas. The EPA’s proposed Subtitle D option did not propose location restrictions for either new or existing units located in floodplains.

Under the EPA’s proposed Subtitle C option, all CCR landfills and surface impoundments would be subject to location restrictions applicable to other subtitle C land-based units, including restrictions on placement in fault areas, 100-year floodplains, salt dome formations, salt bed formations, underground mines and caves.

i. Do you agree that the Discussion Draft contains requirements similar in nature to the June 2010 Proposed Rule, please explain.

The Discussion Draft contains requirements that address a number of the general issues and/or facility operations covered by the June 2010 Proposed Rule. Some of the requirements are similar to those included in the EPA’s June 2010 Proposed Rule. For example, as discussed in the previous response, section (c)(2)(B) of the Discussion Draft would require groundwater monitoring for the contaminants that were specifically listed in the EPA’s 2010 Proposed Rule.

However, many of the requirements in the Discussion Draft are less specific or detailed, and/or are subject to much longer implementation deadlines or none at all. For example, the June 2010 Proposed Rule would establish specific deadlines by which groundwater remediation (corrective action) and risk mitigation activities must occur. Similarly, the June 2010 Proposed Rule established specific deadlines for unit closure activities, and the closure of surface impoundments.

However, we believe any final legislation needs to clearly address: (1) timelines for the implementation of state programs; (2) criteria for the EPA to use to determine when a state program is deficient, (3) criteria for CCR unit structural integrity, (4) deadlines for closure of unlined or leaking units, including inactive or abandoned units, (5) the universe of CCR disposal units subject to a permit program, and (6) groundwater protection standards that address all constituents identified in H.R. 2218 that are contained in coal combustion residuals.

Q8. Following the incident at Kingston, EPA inspected coal ash impoundments- some 600 – to make sure that they are structurally sound. You hired independent contractors who, in the Agency’s own words, “are experts in the area of dam integrity.”

a. Do you agree with the findings of your staff that not a single coal ash impoundment was rated “unsatisfactory” and poses an “immediate safety threat”?

While it is true that no units were rated unsatisfactory, approximately 25% of the units were rated “poor” and either require remedial action, or further critical studies are needed to identify any potential dam safety deficiencies.²⁰ The EPA has sent letters to the owners of the surface impoundments requesting that the deficiencies be remedied, but there is no law or regulation that requires the owners to do so. The owners voluntarily conducted the significant engineering studies to demonstrate whether the units were structurally sound and/or significant construction of, for example, spillways to direct water overtopping. It is also important to note that these assessments were a one-time effort and that a continuous monitoring program is necessary to verify structural integrity. Finally, please note that of the 144 units that have been rated “poor” to date, 11 were classified as high hazard and 69 were classified as significant hazard, meaning that in the event of a failure, loss of human life or damage to critical infrastructure is likely to occur.

b. Do you agree with the findings of your professional staff that the owners of impoundments with identified deficiencies have responded responsibly by submitting response action plans? If not, please explain your answer.

Owners and operators have submitted action plans in response to final report recommendations. However, we would note that it is the responsibility of the owner or operator of the impoundments to implement the recommendations in the actions plans.

Q9. What standard(s) or criteria did/does EPA, or contractors hired by EPA, use to complete the Coal Combustion Residuals Impoundment Assessment Reports found at <http://www.epa.gov/osw/nonhaz/industrial/special/fossil/surveys2/>? Please be specific and include any documents provided to EPA personnel or contractors to assist or instruct them in conducting the assessments.

The independent evaluations of the impoundments storing coal combustion residuals were conducted using standard, accepted engineering practices, including a visual assessment of the site and each impoundment unit; interviews with facility personnel; a review of geotechnical reports and studies conducted by the company related to the design, construction, and operation of the units, if available; and a review of any past state or federal inspections of the units. While the EPA contractors did not conduct any physical drilling, coring, or sampling while on site, they did review studies which may have included such information. In developing the criteria for conducting the impoundment

²⁰ EPA used five categories to rate the units: (1) Satisfactory (no existing or potential management unit safety deficiencies are recognized); (2) Acceptable (performance is expected under all applicable loading conditions (static, hydrologic, seismic) in accordance with the applicable criteria. Minor maintenance items may be required); (3) Fair (acceptable performance is expected under all required loading conditions (static, hydrologic, seismic) in accordance with the applicable safety regulatory criteria; Minor deficiencies may exist that require remedial action and/or secondary studies or investigations); (4) Poor (a management unit safety deficiency is recognized for a required loading condition (static, hydrologic, seismic) in accordance with the applicable dam safety regulatory criteria; Remedial action is necessary; further critical studies or investigations are needed to identify any potential dam safety deficiencies); and (5) Unsatisfactory (considered unsafe; dam safety deficiency is recognized that requires immediate or emergency remedial action for problem resolution; reservoir restrictions may be necessary).

assessments, a standard rating system was needed to classify units regarding suitability for continued safe and reliable operation. The EPA modeled its impoundment condition rating criteria on those developed by the State of New Jersey.²¹ The EPA also required its contractors to assign a hazard potential rating for each impoundment. This hazard potential classification system is based on existing federal guidelines.²² In addition, the EPA directed its contractors to ensure that each assessment conforms to the federal guidelines and procedures for dam safety.²³ The EPA also required its contractors to complete a detailed inspection checklist as means to ensure that similar and complete information is collected at each impoundment storing coal combustion residuals. The EPA's checklist was generally modeled on a tailings and water impoundment inspection form developed by the Mine Safety Health Administration (MSHA).²⁴

10. What standard(s) or criteria were used to develop the Safety Inspection Reports generated as a result of the assessments?

a. Please describe, in detail, EPA's on-site inspection that was part of the Coal Combustion Residuals Impoundment Assessment – including what criteria/standards were used to determine whether structures at the facilities were well maintained and in good condition, or not, at the time of the inspection.

b. Please describe in detail the criteria/standards used to analyze the integrity of dams and dikes at the facilities inspected.

Response to Questions 10(a) and 10(b): As discussed in the response to Question 9, the assessments of impoundments containing coal combustion residuals were completed by the EPA contractors who are experts in the area of dam integrity. Their assessments reflect the best professional judgement of the engineering firm and are signed and stamped by the professional engineer. The reports are based on a visual assessment of the site, interviews with site personnel, and the review of geotechnical reports and studies related to the design, construction and operation of those impoundments, if available.

Based upon the information provided in response to Question 9, the EPA required its contractor to conduct a field assessment of each impoundment and review and assess all relevant existing data concerning: (1) description of impoundment, including location, size, age, design and/or alterations to the design, and amount of residuals currently in the unit; (2) settlement; (3) movement; (4) erosion; (5) seepage; (6) leakage; (7) cracking; (8) deterioration; (9) seismicity; (10) internal stress and hydrostatic pressures in the unit or its foundations or abutments; (11) functioning of foundation drains and relief wells; (xii) stability of critical slopes adjacent to the unit; and (12) regional and site geological conditions.

²¹ New Jersey Department of Environmental Protection, "Guidelines for Inspection of Existing Dams," January 2008. The document can be accessed at <http://www.nj.gov/dep/damsafety/docs/vicguid2.pdf>.

²² Federal Emergency Management Agency, "Federal Guidelines for Dam Safety: Hazard Potential Classification System for Dams," April 2004. This document can be accessed at <http://www.ferc.gov/industries/hydropower/safety/guidelines/fema-333.pdf>.

²³ Federal Emergency Management Agency, "Federal Guidelines for Dam Safety," April 2004. This document can be accessed at <http://www.ferc.gov/industries/hydropower/safety/guidelines/fema-93.pdf>. Mine Safety Health Administration, "MSHA Handbook: MSHA Coal Mine Impoundment Inspection and Plan Review Handbook," October 2007. This document can be accessed at [http://www.msha.gov/READROOM/HANDBOOK/PH07-V-1\(1\)CoallmpoundmentInspectionHandbook.pdf](http://www.msha.gov/READROOM/HANDBOOK/PH07-V-1(1)CoallmpoundmentInspectionHandbook.pdf). U.S. Army Corps of Engineers (USACE), "Engineering and Design – Slope Stability," October 31, 2003 (http://publications.usace.army.mil/publications/eng-manuals/EM_1110-2-1902_sec/toc.htm), and "Engineering and Design – Earthquake Design and Evaluation for Civil Works Projects," July 31, 1995.

²⁴ MSHA's checklist can be accessed at <http://www.msha.gov/regs/complian/PILS/2009/PIL09-IV-1attach1.pdf>.

The EPA's contractors were also required to provide an evaluation of (1) the adequacy of spillways; (2) effects of overtopping of the unit; (3) structural adequacy and stability of structures under all credible loading conditions; (4) review of static and seismic evaluations used to determine factors of safety; (5) soil, ground water, surface water, geology, and geohydrology characteristics associated with the unit, including hydrological data accumulated since the impoundment was constructed or last inspected; (6) history of the performance of the management unit through analysis of data from monitoring instruments; (7) quality and adequacy of maintenance, surveillance, and methods of unit operations for the protection of public safety; (8) location of schools, hospitals or other critical infrastructure within five miles down gradient of the impoundment; and (9) whether the impoundment is located within federally designated flood plains. In addition, the EPA required its contractor to evaluate the ability of the impoundment and any spillways to withstand the loading or overtopping which may occur from flooding events.

c. Please describe, in detail, the criteria/standards used to determine the recommendations that were part of the Site Assessment Reports (or Dam Safety Assessment Reports – or any other name by which these reports are identified).

The report recommendations reflect the best professional judgment of the EPA's contractors based on the contractor's field observations and assessment of the unit.

11. Does EPA believe that the MSHA requirements found at 30 CFR Part 77.216 are the appropriate standards for:

a. Inspecting and analyzing the design of impoundments/dams used to manage coal ash? Please explain and provide the citation(s) to the specific requirements EPA believes are applicable and explain why.

The EPA believes that the MSHA standards codified under 30 CFR 77.216 can reasonably be applied to coal ash impoundments since coal slurry impoundments (under MSHA jurisdiction) and coal ash disposal impoundments (under the EPA jurisdiction) have many engineering similarities, including that both materials are disposed of in slurry form, both impoundments rely on earthen embankments to retain water and slurries. The engineering design consideration for both types of impoundments are essentially the same since engineering risks are similar for such above ground earthen embankments. The EPA did not, however, assess the efficiency of liners in these units since the EPA was only assessing the structural stability of the impoundments. The specific MSHA requirements applicable to the design and inspection of coal ash impoundments are 30 CFR 77.216-2(a)(17) which requires certification by a registered engineer that the design of the impounding structure is in accordance with current, prudent engineering practices for the maximum volume of water, sediment, or slurry which can be impounded therein; and 30 CFR 77.216-3 which requires routine inspections of impoundments and correction of potentially hazardous conditions.

b. Inspecting and analyzing the construction of impoundments/dams used to manage coal ash? Please explain and provide the citation(s) to the specific requirements EPA believes are applicable and explain why.

In its proposal, the EPA adopted 30 CFR 77.216-2(a)(17) which requires certification by a registered engineer that the design of the impounding structure is in accordance with current, prudent engineering practices for the maximum volume of water, sediment, or slurry which can be

impounded therein. The EPA believes these requirements are also appropriate for the design and construction of coal ash impoundments which are similar to the coal slurry impoundments regulated by MSHA in that both types of impoundments impound large volumes of sediments, slurry and water. The EPA believes that both types of impoundments should be designed and constructed in accordance with current, prudent engineering practices.

c. Inspecting and analyzing the continued operation and maintenance of impoundments/dams used to manage coal ash? Please explain and provide the citation(s) to the specific requirements EPA believes are applicable and explain why.

In its proposed rule, the EPA adopted 30 CFR 77.216-3 which requires routine inspections of impoundments and correction of potentially hazardous conditions. MSHA established this requirement so that structural weaknesses in coal slurry impoundments could be identified and corrected to prevent catastrophic failures. The EPA believes the MSHA inspection requirements are also appropriate to identify structural weaknesses in coal ash impoundments to help prevent catastrophic failures similar to the TVA Kingston, Tennessee disaster.

d. Please explain why an inspection for appearances of structural weakness is necessary at intervals not exceeding 7 days?

The EPA has recognized the similarities between coal slurry impoundments and coal ash impoundments, as well as MSHA's nearly 40 years of experience regulating the design, construction and inspection of coal slurry impoundments. MSHA inspection requirements found at 30 CFR 77.216-3 require that all water, sediment, or slurry impoundments be examined at intervals not exceeding seven days (or as otherwise approved by the District Manager) for appearances of structural weakness and other hazardous conditions. As MSHA's Engineering and Design Manual for Coal Refuse Disposal Facilities states: "Routine inspections during operation of the facility allow for the identification of potential problems and resolution in a timely fashion." MSHA's regulations have prevented catastrophic failures of coal slurry impoundments since the regulations were promulgated. The EPA believes the MSHA inspection requirements are appropriate for coal ash impoundments.

e. What about the Federal Dam Safety Guidelines published by FEMA – does EPA believe that these requirements may be appropriate standards/criteria for analyzing design of impoundments/dams used to manage coal ash? For analyzing construction of impoundments/dams used to manage coal ash? For analyzing continued operation and maintenance of impoundments/dams used to manage coal ash?

The EPA also evaluated the Federal Guidelines for Dam Safety (Guidelines) published by FEMA. While the Guidelines encourage strict safety standards in the practices and procedures employed by the federal agencies or required of dam owners regulated by the federal agencies, they do not establish technical standards. The EPA believes the technical standards found in the MSHA regulations are more appropriate for the design, construction, operation, and maintenance of impoundments used to manage coal ash.

12. Does the Discussion Draft allow EPA to find a State Program deficient if the program does not meet the minimum requirements?

Section (d) of the Discussion Draft does not authorize the EPA to find a State program deficient at the time of the initial certification for any reason, including if the program does not meet the minimum requirements.

Section (d) does authorize the EPA to issue a notice of deficiency if the state is not implementing a permit program that meets the specification in subsection (c). However, to support a determination under 4011(d)(1)(D), the EPA would likely need to undertake a fact-specific examination of the state's implementation of its CCR program, including an evaluation of the state's individual permitting decisions and enforcement of the CCR program. We believe the evaluation would need to consider the overall implementation of the state's CCR program, and that one or two individual permit decisions or enforcement actions would not be sufficient to consider the state's program deficient. Further, taking action under this provision would be complicated by the fact that the regulations incorporated into the criteria allow states to establish regulatory alternatives or potentially to waive certain requirements.

a. Does the Discussion Draft allow EPA to take over a State permit program if the State does not correct identified deficiencies?

Subsection (e)(1)(B) authorizes the EPA to implement a CCR permit program if the state has failed to remedy identified deficiencies. It does not appear, however, that the Discussion Draft authorizes the EPA to implement a state permit program. Subsection (e)(4) restricts the EPA to implement and enforce only "the requirements of [the bill]." Thus, to the extent the state program varied from the minimum requirements of the Discussion Draft (e.g., was more stringent), the EPA does not appear to be authorized to implement or enforce such state requirements.

b. What criteria would EPA need to determine whether a State permit program is deficient?

Generally, where a state permit program does not meet the goals and requirements of the statute, that permit program could be considered deficient. Criteria for making this determination could include, for example: failure to issue permits; repeated issuance of permits that do not conform to the requirements of the statute; failure to comply with public participation; and lack of an adequate enforcement and compliance program. See also 40 CFR 271.22 for the EPA's criteria for withdrawing the subtitle C program and 40 CFR 239 for the criteria and procedures the EPA uses to review state Subtitle D programs prior to implementation and to withdraw determinations of adequacy after program implementation.

13. Does the Discussion Draft address the full volume of liquid to be stored in an impoundment?

Yes, Section 4011 (c)(1)(B)(i)(I) appears to require that an independent registered professional engineer certify that a coal combustion residuals unit be designed in accordance with recognized and generally accepted engineering practices for "containment of the maximum volume of coal combustion residuals and liquids appropriate for the structure." Section (c)(1)(B) also requires inspections by an independent registered professional engineer at least annually to assure that the "... design, operation, and maintenance of surface impoundments are in accordance with recognized

and generally accepted good engineering practices for containment of the maximum volume of coal combustion residuals and liquids which can be impounded ...”

Rep. Bill Cassidy

1. Coal fly ash has been used successfully for years in building materials and as fill material for roads without any negative incidents occurring. Over the last few years, the Obama Administration has been pursuing a strategy to declare it hazardous, having an adverse impact on our road and home building industries. Is this just another step in the life cycle of harassment of coal and domestic energy by the Obama Administration? The Administration is delaying Army Corps of Engineers permits for sites of coal mines, pushing new regulations on the mining of coal through their stream buffer zone and mine dust regulations, trying to stop the use of coal by the utilities through air regulations, and now it is trying to declare the waste product hazardous. The Obama Administration lacks the authority to outright make coal illegal so they are attacking the entire life cycle through regulations. This will cost American jobs; by the cost of energy and the materials made from coal ash byproducts.

The EPA proposed to maintain the Bevill exemption for “beneficially used” CCRs. The EPA proposed this approach in recognition of the fact that some uses of CCRs, such as encapsulated uses in concrete, and use as an ingredient in the manufacture of wallboard, provide benefits and raise minimal health or environmental concerns. The EPA continues to believe that the beneficial use of CCRs, when performed properly and in an environmentally sound manner, is the environmentally preferable outcome for CCRs.

On the other hand, unencapsulated uses have raised concerns and merit closer attention. For example, the placement of unencapsulated CCRs on the land, such as in road embankments or in agricultural uses, presents a set of issues that may pose similar concerns as those that caused the agency to propose to regulate CCRs destined for disposal. This includes the discovery of seven proven damage cases, involving the large-scale placement, akin to disposal, of CCRs, which occurred under the guise of “beneficial use.” See 75 Fed Reg at 35146-148.

Rep. Henry Waxman

During a hearing in the Environment and the Economy Subcommittee in February on the role of States in protecting the environment, witnesses suggested that giving EPA the ability to take over a state permit program if it is deficient would constitute backstop enforcement authority. Such a significant step would go well beyond enforcing against a particular facility.

1. What is the process for taking control of existing state permit programs under RCRA?

With respect to RCRA Subtitle C, section 3006(e) and the EPA’s regulations (40 CFR 271.23) establish the process for withdrawing authorization of state programs. The EPA regulations provide that the EPA may initiate withdrawal of an authorized state hazardous waste program on its own initiative or in response to a petition, and may conduct an informal investigation. The process requires a public hearing (under the regulations, a formal evidentiary hearing). If, after the hearing, the EPA Administrator decides that the state program has not been administered in conformity with the statute and regulations, the EPA must notify the state and list the program deficiencies. The Administrator must provide the state up to 90 days to correct the deficiencies, and if they are not

corrected, the Administrator will issue an order withdrawing the state program. Upon withdrawal of the state hazardous waste program, the state's hazardous waste regulations would no longer apply in lieu of the EPA's federal RCRA regulations, and the EPA would take over from the state the role of issuing RCRA Subtitle C permits to treatment, storage, and disposal facilities.

Under RCRA Subtitle D, section 4005(c), the EPA only approves state permit programs for two categories of non-hazardous waste disposal facilities - municipal solid waste landfills (MSWLFs) and those units that receive conditionally-exempt small quantity generator waste (CESQG facilities). Under EPA's Subtitle D permit program approval regulations, the EPA may initiate a withdrawal of an adequacy determination when it has reason to believe that a state program is no longer adequate, or the state no longer has adequate authority to administer and enforce such a program. See 40 C.F.R. 239.13. After notification by the EPA, the state has the opportunity first, to demonstrate to the EPA that its program continues to comply with the EPA's regulations, and second, to correct any deficiencies identified by the EPA. If this is not sufficient, the EPA can then publish a proposed withdrawal of adequacy in the Federal Register affording public comment, and the EPA may also conduct a public hearing. The EPA will thereafter publish its final decision and respond to significant comments. States can reapply for approval at any time after a determination of inadequacy.

It is important to note that finding a state permit program inadequate under RCRA Subtitle D, section 4005(c) has a different effect than withdrawing authorization of a state's Subtitle C program. A finding that a state permit program is inadequate under RCRA Subtitle D, section 4005(c) only authorizes the EPA to enforce the EPA's subtitle D MSWLF and CESQG regulations. The EPA does not assume implementation of the state program. Under RCRA Subtitle D, the EPA does not issue permits to solid (i.e., non-hazardous) waste disposal facilities, even in unapproved states; state laws do not operate in lieu of the federal RCRA regulations.

There is an additional implication to such a determination, the federal MSWLF and CESQG facility regulations provide more flexible standards to facilities in approved states. Thus, the EPA's withdrawal of approval of a state permit program under RCRA Subtitle D, section 4005(c) would have the effect of requiring MSWLF/CESQG facilities to comply with the more-prescriptive standards in the EPA's regulations and subject those facilities to the EPA enforcement if they violate the federal regulations. However, the facilities would still remain subject to state permitting and other state law.

2. How often does EPA take the dramatic action of taking control of a state permit program under RCRA?

To our knowledge, the EPA has never withdrawn authorization for a state permit program under subtitle C, nor initiated the formal procedures to disapprove (or make a determination of deficiency for) an approved state's municipal solid waste program under 40 CFR 239.13.

3. How does the process outlined in the discussion draft for taking control of a state coal combustion residual permit program compare to the process for taking control of existing state programs?

Unlike the process for withdrawing authorization under RCRA section 3006(e), the Discussion Draft does not require a public hearing. Section 4011(d)(1) requires that the EPA first provide the state

with written notice that details the deficiencies in the state’s implementation of the CCR permit program, and grant the state an opportunity to remedy the deficiencies. In addition, subparagraph (d)(1)(B) requires the EPA to establish a deadline by which the deficiencies must be remedied “in collaboration with the state,” and that is at least six months from the date of the notification. By contrast, RCRA section 3006(e) establishes a 90-day deadline for the state to remedy deficiencies. The Discussion Draft also grants states the right to judicial review in the DC Circuit pursuant to RCRA 7006(a).