

US EPA ARCHIVE DOCUMENT

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COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE  
SUBCOMMITTEE ON WATER RESOURCES AND THE ENVIRONMENT  
U.S. HOUSE OF REPRESENTATIVES**

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Madam Chairwoman and members of the Subcommittee, thank you for the opportunity to testify on the U.S. Environmental Protection Agency's (EPA's) coal combustion regulatory development activities and management unit assessment efforts. My testimony provides a brief history of EPA's regulatory efforts on coal combustion residuals, as well as an update on our current rulemaking activities. I will also discuss and provide an update of EPA's assessment of coal combustion residuals management units.

**Regulation of Coal Combustion Residuals**

Coal combustion residuals (CCR) are one of the largest waste streams generated in the United States, with approximately 131 million tons generated in 2007. Of this, approximately 36% was disposed of in landfills, 21% was disposed of in surface impoundments, 38% was beneficially reused, and 5% was used as minefill. In comparison, EPA's Biennial Hazardous Waste Report shows that approximately 33.7 million tons of hazardous waste was generated in the United States in 2007. CCR typically contain a broad range of metals, including arsenic, selenium, and cadmium; however, the leach levels, using EPA's Toxicity Characteristic Leaching Procedure (TCLP), rarely reach the Resource and Conservation Recovery Act (RCRA)

hazardous waste characteristic levels. Due to the mobility of metals and the large size of the typical disposal unit, metals (especially arsenic) may leach at levels of potential concern from impoundments and unlined landfills.

The beneficial use of CCR provides environmental benefits in terms of energy savings, greenhouse gas emission reductions, and resource conservation. In 2007, 56 million tons of CCR were reused. For example, use of CCR contributed to the construction of the Hoover Dam, the San Francisco-Oakland Bay Bridge, and the new I-35 bridge in Minneapolis, Minnesota. Many state environmental statutes and regulatory programs, as well as state road construction agencies, provide for the beneficial use of CCR. In 2007, use of coal fly ash as a substitute for Portland cement in concrete reduced energy use in concrete manufacturing by 73 trillion British thermal units (BTUs), with associated greenhouse gas emission reductions estimated at 12.5 million tons of carbon dioxide equivalent (MTCO<sub>2</sub>).

Regarding EPA's regulatory efforts for CCR, in May 2000, EPA issued a "Regulatory Determination on Wastes from the Combustion of Fossil Fuels" which conveyed EPA's determination that CCR did not warrant regulation as hazardous waste under Subtitle C of RCRA. However, EPA also concluded that federal regulation as a non-hazardous waste under Subtitle D of RCRA was warranted. EPA based this determination on a number of important findings: (1) the constituents present in CCR include metals that could present a risk to human health and the environment under certain conditions; (2) EPA identified 11 documented cases of proven environmental damage due to improper management of CCR in landfills and surface impoundments; (3) many sites managing CCR lacked controls, such as liners and ground water

monitoring; and (4) while state regulatory programs had shown improvement, gaps still existed. With respect to other uses, EPA determined that beneficial uses of CCR, other than minefilling, did not pose a risk and thus did not require federal regulation. EPA also determined that minefilling should be regulated under RCRA Subtitle D or the Surface Mining Control and Reclamation Act (SMCRA).

After the Regulatory Determination, EPA continued to collect new information and conduct additional analyses as part of its effort to develop regulations. In August 2007, EPA made this information available for public comment through a Notice of Data Availability. This notice solicited comment on three documents – an updated draft risk assessment characterizing potential human and ecological risks associated with disposal of CCR in surface impoundments and landfills; an updated report on damage cases associated with disposal of CCRs, which identified an additional 13 proven damage cases; and a Department of Energy / EPA survey of recent disposal practices. In addition, EPA also made available for comment two alternative management approaches, one recommended by a consortium of environmental groups and the other by the utility industry. The comment period on the notice closed on February 11, 2008. EPA received close to 400 comments. After the comment period closed, EPA commissioned a peer review of the draft risk assessment which was completed in September 2008.

The failure of an ash disposal cell at the Tennessee Valley Authority's (TVA's) Kingston plant in December 2008 highlighted the issue of impoundment stability. Our previous regulatory efforts had not included this element; however, we are now analyzing and considering whether to specifically include impoundment integrity as part of our CCR regulatory development.

EPA is committed to issuing proposed regulations for the management of CCR by the electric utilities by December 2009. We are currently evaluating a number of different approaches for regulating CCR, including revising the May 2000 Regulatory Determination. As part of our efforts, we are reviewing all of the information we have on CCR, including all of the comments received from our August 2007 NODA and the peer review of the risk assessment.

### **Regulation of Water Discharges**

Wastewater discharges from surface impoundments are subject to Clean Water Act regulations implemented through the National Pollutant Discharge Elimination System (NPDES). NPDES permits incorporate technology-based effluent limits (i.e., effluent limitations guidelines), water-quality based effluent limits, and standard and special conditions.

NPDES regulatory requirements that address impoundment integrity include standard permit conditions to “...properly operate and maintain all facilities and systems of treatment and control (and related appurtenances)...to achieve compliance with the conditions of this permit” [See 40 CFR part 12.41(e)]. In addition, best management practices can be incorporated in NPDES permits as necessary to achieve limitations or to carry out the purpose and intent of the Clean Water Act [See 40 CFR part 122.44(k)].

EPA reviewed a sample of existing NPDES permits to see what types of conditions were currently in permits to address impoundment integrity. EPA determined that additional technical assistance is needed to help permit writers better address coal ash impoundment integrity. As a

result, EPA is developing model permit language and implementing guidance that will be discussed with our state counterparts and then made available for state and EPA permit writers. EPA also is considering technical assistance for permit writers to help them identify and apply appropriately sensitive analytical test methods to effectively measure the impacts of both permitted discharges and any future spills.

The effluent limitation guidelines for steam electric power plants were last issued in 1982 and are codified in Part 423 of the Code of Federal Regulations (40 CFR part 423). Since 2005, EPA has conducted an intensive review of wastewater discharges from coal-fired power plants to determine whether new Clean Water Act regulations are needed. As part of this effort, EPA sampled wastewater from surface impoundments and advanced wastewater treatment systems, conducted on-site reviews of the operations at more than two dozen power plants, and issued a detailed questionnaire to thirty power plants using authority granted under section 308 of the Clean Water Act. EPA's data collection efforts focused on three target areas: (1) identifying treatment technologies for the wastewater generated by newer air pollution control equipment; (2) characterizing the practices used by the industry to manage or eliminate discharges of fly ash and bottom ash wastewater; and (3) identifying methods for managing power plant wastewater that allow recycling and reuse, rather than discharge to surface waters. EPA has engaged in extensive dialogue with our state partners to ensure their comments about power plant discharges are taken into account.

In August 2008, EPA published an interim report describing the status of the detailed study and findings to date. Much of the information EPA collected, including the laboratory data

from sampling and the questionnaire data were made available to the public. The study is still in progress and in December 2008 EPA received the laboratory results from its most recent sampling event. Upon completion of the study this year, EPA will determine whether the current national effluent limitations guidelines for power plants need to be updated. EPA's interim study report, "*Steam Electric Power Generating Point Source Category: 2007/2008 Detailed Study Report*," can be found online at <http://epa.gov/waterscience/guide/304m/2006/steam-interim.pdf>.

### **Assessment Efforts**

As noted previously in my testimony, the failure of an ash disposal cell at TVA's Kingston plant in December 2008 highlighted the issue of impoundment stability. As a result, EPA has embarked on a major effort to assess the stability of those impoundments and other management units which contain wet-handled CCR. This assessment has three phases: information gathering through an information request letter; site visits or independent assessments of other state or federal regulatory agency inspection reports; and final reports and appropriate follow up. Currently, we are still in the information gathering phase and plan to begin field work in May of this year.

On March 9, 2009, EPA sent information request letters under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 104(e) to 162 facilities and to 61 utility headquarters offices. These information requests asked specific questions related to the stability of the management units and required a response within ten working days of receipt. Further, in order to emphasize the priority placed on this effort, EPA's

Administrator signed the cover letter for each of these requests. I am happy to report that all of the corporate responses and all but two of the individual facility responses have been submitted. We are following up with those facilities that have not responded. In addition, through this effort an additional 43 facilities with impoundments or management units for wet-handled CCR have been identified. EPA has sent information requests to these facilities. Overall, the assessment responses have identified more than 400 management units that have free liquid.

EPA is in the process of analyzing these responses to determine the appropriate next step for each facility. We plan to conduct assessments for all of these facilities on a case-by-case basis and are evaluating the best methods for conducting these assessments. EPA has retained a contractor to assist in the assessments and we plan to have our first teams in the field in May. We will work closely with our state partners on the scheduling of any site assessments and our state partner agencies will be invited to participate.

If our assessments indicate that corrective measures are needed, EPA will work closely with our state partners to ensure that these measures are taken. In addition, EPA expects to prepare a report for each of the units assessed and make those reports available to the public. Our goal is to complete all of the assessments this year. We will continue to share information about our assessment efforts as they progress.

EPA also is evaluating CCR disposal practices at coal-fired power plants to determine if these facilities are in compliance with existing federal environmental laws and will take enforcement action, where appropriate, to address serious violations.



## Conclusion

EPA will continue its regulatory development process and its management unit assessment efforts and we will continue to keep the Committee informed on progress related to these efforts.