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**BEFORE THE**  
**SUBCOMMITTEE ON ENVIRONMENT AND ECONOMY**  
  
**COMMITTEE ON ENERGY AND COMMERCE**  
**U.S. HOUSE OF REPRESENTATIVES**  
  
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Good morning Chairman Shimkus, Ranking Member Tonko, and members of the Subcommittee, I am Mathy Stanislaus, Assistant Administrator for the U.S. Environmental Protection Agency's Office of Solid Waste and Emergency Response. Thank you for the opportunity to testify today on the EPA's final rule that regulates the disposal of coal combustion residuals or CCR.

**Introduction**

On December 19, the EPA Administrator Gina McCarthy signed the final CCR or coal ash rule. This rule establishes the first ever nationally applicable minimum criteria providing for the safe disposal of coal combustion residuals in landfills and surface impoundments. The 2008 catastrophic failure of a CCR impoundment at the Tennessee Valley Authority's (TVA's) Kingston facility, the EPA's risk assessment, and the 157 cases in which CCR mismanagement has caused damage to human health and the environment clearly demonstrate that improper management of CCRs poses an unacceptable risk to human health and the environment. During the public comment period, the EPA heard from communities across the country about the health

and environmental risks posed by mismanaged CCR impoundments associated with groundwater contamination, fugitive dust, and structural failure.

Coal combustion residuals (CCR – also commonly known as coal ash) are by products of the combustion of coal at power plants. CCR includes fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) materials. CCR contain contaminants such as mercury, cadmium, and arsenic which, are associated with cancer and other serious health effects. When improperly managed, CCR can leak into the groundwater, blow into the air as dust, and be released to the surface water and to the land in the event of a catastrophic failure.

CCR is one of the largest industrial waste streams generated in the United States. In 2012, more than 470 coal-fired electric utilities burned over 800 million tons of coal, generating approximately 110 million tons of CCR in 47 states and Puerto Rico. CCR may be generated wet or dry; after it is generated, some CCR is dewatered while other CCR is mixed with water to facilitate transport (i.e., sluiced). CCR can be sent off-site for disposal or beneficial use or disposed in on-site landfills or surface impoundments. In 2012, approximately 40 percent of the CCR generated was beneficially used, with the remaining 60 percent disposed in surface impoundments and landfills. Of that 60 percent, approximately 80 percent was disposed in on-site disposal units. CCR disposal currently occurs at more than 310 active on-site landfills, and at more than 735 active on-site surface impoundments. These disposal units are very large, with landfills averaging more than 120 acres in size with an average depth of over 40 feet (roughly a four story building) and surface impoundments averaging more than 50 acres in size with an

average depth of 20 feet. To put this in perspective, a unit of 50 acres equals approximately 38 football fields.

The final rule is a strong, effective approach that provides critical protections to communities across the nation by helping to protect our water, land, and air. Further, the rule provides states and local communities the information they need to fully engage in the rule's implementation, thereby helping to ensure that facilities safely dispose of CCR. To address the risks posed by mismanagement of CCRs, the rule requires utilities to conduct groundwater monitoring, install liners for new surface impoundments and landfills, control fugitive dust and properly close surface impoundments and landfills no longer receiving CCRs.

The rule has been designed to provide electric utilities and independent power producers generating CCR with a practical approach for addressing the issue of CCR disposal and has established varying implementation timelines for the technical requirements that take into account, among other things, other upcoming regulatory actions affecting electric utilities and site specific practical realities. This rule also sets out recordkeeping and reporting requirements, including requirements to post information on a publicly available web site to ensure transparency. Finally, the EPA is committed to working closely with our state partners on rule implementation and, as a major component of this, is encouraging states to revise their Solid Waste Management Plans and submit the revisions to the EPA for approval. As stated previously, the CCR rule establishes a comprehensive regulatory program governing the disposal of CCR. As such, it has elements of prevention, response, and public information/transparency.

## **Components of the Rule**

The final rule establishes a comprehensive set of requirements for the disposal of CCR in landfills and surface impoundments. This groundbreaking rule is the culmination of extensive study on the effects of CCR on the environment and public health. The rule establishes technical requirements for landfills and surface impoundments under subtitle D of the Resource Conservation and Recovery Act, the nation's primary law for regulating solid waste. In developing this final rule, the EPA carefully evaluated more than 450,000 comments on the proposed rule, testimony from eight public hearings, and information gathered from three notices soliciting comment on new data and analyses. Provisions of the final rule include:

### **Structural Integrity Requirements**

To prevent the damage associated with structural failures of CCR surface impoundments, the rule establishes structural integrity design criteria and requires that owners and operators periodically conduct a number of structural integrity related assessments. Examples of these include conducting: (1) routine structural stability assessments; (2) routine safety factor assessments to document that the unit achieves minimum engineering factors of safety; (3) routine hazard potential classification assessments to assess the damage that would occur if there was a failure of the CCR surface impoundment; (4) weekly inspections of the CCR unit; and (5) monthly monitoring of unit instrumentation. In addition, those surface impoundments with High or Significant Hazard Potential classification (that is those units where a failure would result in loss of human life or significant damage to infrastructure) must develop a written emergency action plan which details the actions that will be taken to protect communities in the event there is an issue with the structural or operational safety of the unit.

## **Groundwater Protection and Location Restrictions**

In order to protect groundwater, the rule establishes a number of requirements both to prevent future contamination, to detect potential contamination as early as possible, and to remedy contamination that has occurred. The prevention provisions include the requirement for all new units to have a composite liner to help prevent contaminants from leaching into the groundwater. In addition, the rule establishes five location restrictions to help ensure that landfills and surface impoundments are appropriately sited. These include requirements related to placement above the uppermost aquifer, and restrictions on the placement in wetlands, in fault areas, in seismic impact zones and in unstable areas. Owners or operators must demonstrate that their existing landfills or surface impoundments meet these restrictions currently, through engineering enhancements, or established alternatives as set forth in the rule or they must close the unit. New units must be built in compliance with the requirements.

To detect contamination as early as possible, the rule requires the owner or operator of a CCR unit to install a system of monitoring wells and specify procedures for sampling these wells and for analyzing the data to detect the presence of hazardous constituents. In those cases where hazardous constituents are in the groundwater above groundwater protection standards, the owner or operator must begin the corrective action process to clean up the contamination caused by the unit. If the unit causing the contamination is an unlined surface impoundment, it must begin the closure process.

## **Operating Criteria**

The rule also sets out operating criteria to address the day-to-day operations of CCR units and establish requirements to prevent public health and environmental impacts from the units. These include: (1) air criteria, requiring that controls be established to prevent CCR from becoming airborne at a facility. These requirements are designed to address the pollution caused by windblown dust from CCR units; (2) run-on and run-off controls to minimize the amount of water entering the unit and thus prevent erosion, water discharges and the creation of landfill leachate, and to help protect against releases to surface waters.

## **Closure Requirements**

Further, the rule establishes criteria to help ensure the long term safety of units that are ceasing operation and requires all units to close in accordance with specified standards and to monitor and maintain the units for a period of time after closure, including maintaining groundwater monitoring and corrective action. The rule establishes specified timeframes for both beginning and completing the closure process and enables owners/operators to obtain extensions due to circumstances beyond the facility's control; where there is no alternative disposal capacity; or where the facility is permanently closing the coal fired boiler in the near future.

As a general matter, the rule allows existing units to continue to operate until the end of their useful lives or until a business decision is made to cease operating that unit. However, there are three circumstances where the CCR rule will require a unit to begin the closure process. First, when a unit fails to meet technical criteria that is, if the CCR unit cannot meet the location criteria or the engineering demonstrations that the unit can still operate safely even though it

does not meet the location restrictions; second, where an unlined CCR surface impoundment is found to contaminate groundwater in excess of a groundwater protection standard; and third, where a CCR surface impoundment cannot demonstrate that it meets the minimum factors of safety regarding structural integrity of the CCR unit.

### **Inactive Units**

The final rule also addresses surface impoundments that have ceased receiving waste by the effective date of the rule (inactive units). Those units that have water and contain CCRs pose the same risk as active units of structural failure and groundwater contamination. The final rule thus applies to these units. However, the final rule allows for a practical alternative for these units- if they complete closure (dewater, stabilize, and install a final cover) within three years of the publication of this rule, then they are not subject to any additional requirements under the rule.

### **Notification and Public Disclosure**

A fundamental principle of the CCR rule is that it helps ensure transparency and provides citizens and states with the information they need to fully engage in the implementation of the rule. For example, the rule requires owners or operators of CCR units to record compliance with these requirements in the facility's operating record. In addition, the facility must notify the state of decisions and maintain a publicly available website of compliance information. Some examples of the information that must be maintained and made publicly available are annual groundwater monitoring results, corrective action reports, fugitive dust control plans and closure completion notifications.

## **State Programs**

The EPA recognizes the important role that our state partners play in implementation and in ensuring compliance with environmental regulations, particularly in complex situations such as cleaning up contaminated drinking water sources. Based upon extensive comments by states, the agency identified the Solid Waste Management Plan (SWMP) process as the way to help align state programs with the EPA rule. The agency expects that states will use this process and will revise their SWMPs to demonstrate how CCRs will be regulated in their states. The SWMP is the mechanism where a state will be able to outline, as part of their overall solid waste program, how the state intends to regulate CCR landfills and surface impoundments. In other words, the plan can demonstrate how the state program has incorporated the minimum national criteria and can highlight those areas where the state regulations are more stringent or otherwise go beyond the federal minimum criteria.

For example, the plan can describe the actions the state will take to oversee CCR disposal units, particularly those units undergoing closure or corrective action, and how the state intends to review or use the notices and other information pertaining to the units that the facility owners will be providing to the state. In addition, states can specify in its SWMP any review and approval process the state will use in dealing with disposal units - including the use of permitting. The EPA made clear in the rule preamble that the revision to SWMPs is limited to CCRs. Moreover, we will be working with the states to develop a template for a streamlined process for developing and approving SWMPs.



Citizens also perform a critical role in the development of SWMPs. Revisions of SWMPs should be subject to a public participation process. This process will provide the public and communities near CCR landfills and surface impoundments with an opportunity to participate in the decision making about how CCRs are managed in their State.

The EPA's view is that facilities adhering to the requirements of a state program that are identical to or more stringent than the federal regulations and that are part of an approved SWMP would also be adhering to the EPA rule. The agency thus anticipates that a facility that complies with State requirements in an approved SWMP will be able to use such information as evidence in a citizen suit brought to enforce the federal criteria. The EPA believes that in any action to enforce the federal criteria, a court will accord substantial weight to the fact that a facility is operating in accord with state requirements promulgated in accordance with an EPA approved SWMP. Moreover, in any suit to enforce the EPAs' rule, the agency expects that a state's process and record developed by the state in preparing its SWMP and demonstration on how it addressed public comments will similarly be accorded substantial weight by courts. For these reasons, while states are not required to adopt the EPA's rules into their regulations, to develop a permitting program, or to submit a program to the EPA for approval, the agency expects states will avail themselves of the SWMP to help align state programs with the CCR rule.

The EPA is strongly encouraging states to adopt at least the federal minimum criteria into the regulations. The agency recognizes that some states have already adopted requirements that go beyond the minimum federal requirements. This rule will not affect those state requirements. Moreover, the final rule does not preclude a state from adopting more stringent requirements. In

addition, states will be active partners in overseeing the regulation of CCR landfills and CCR surface impoundments through a number of provisions in the CCR rule to help ensure that states have the information necessary to undertake this role. The final rule requires owners or operators of regulated CCR units to notify the state of actions taken to comply with the requirements of the rule. The timing of actions required by owners or operators to comply with the rule's requirements varies depending on the action. For instance, record-keeping and public web posting of utility compliance with rule requirements are 6 months after Federal Register publication, while unit design criteria requirements are 18 months after publication of the rule. Owners or operators will be required to maintain a publicly accessible website that will document the facility's compliance with the requirements of the rule and states will be able to access this site to monitor facility activities. Based on this information, states will be able to determine whether a utility is in compliance with the federal minimum criteria and can take appropriate action.

### **Beneficial Use**

The rule supports environmentally sound beneficial use of CCR. As noted earlier, approximately 40 percent of the CCR generated in 2012 was beneficially used. Beneficial use of CCR can produce positive environmental, economic, and performance benefits such as reduced use of virgin resources, lower greenhouse gas emissions, reduced cost of CCR disposal, and improved strength and durability of materials. The final rule does not regulate CCRs that are beneficially used, but provides a definition of beneficial use to distinguish between beneficial use and disposal to provide certainty to the regulated community and to the users of CCR. To help support the appropriate beneficial use of CCRs, last year the EPA issued a methodology for

evaluating encapsulated beneficial uses of CCRs. This methodology supports beneficial use decisions by allowing the user to determine whether releases from an encapsulated beneficial use of coal ash is comparable to or lower than those from analogous products made without coal ash, or are at or below relevant regulatory and health-based benchmarks, during use.

### **Conclusion**

The EPA's final rule, that for the first time establishes nationally applicable minimum criteria for the safe disposal of coal combustion residuals in landfills and surface impoundments, represents a milestone that will help protect our communities and the environment in which we live and work. The EPA is committed to working closely with our state partners, local communities, and the utilities on implementation of the rule to help achieve the benefits that this rule will provide.