



# Proposals to Amend RCRA: Analysis of Pending Legislation Applicable to the Management of Coal Combustion Residuals

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## Summary

On April 24, 2012, the House and Senate began the conference process to reconcile legislation passed in both houses that would extend authorization for Department of Transportation programs. Title V in the House-passed legislation (H.R. 4348), Highway and Infrastructure Safety Through the Protection of Coal Combustion Residual Recycling, would amend the Resource Conservation and Recovery Act (RCRA) to add Section 4011. Largely identical to the Coal Residuals Reuse and Management Act passed in the House (H.R. 2273) and introduced in the Senate (S. 1751), the proposed Section 4011 would create a state-based permit program for the management and disposal of coal combustion residuals (CCRs).

### Concern over CCR Management

CCRs are the inorganic materials that remain after pulverized coal is burned for power production. Generally, over a hundred million tons of CCRs are generated annually in the United States, the majority of which is accumulated in landfills or surface impoundment ponds at individual power plants. The Environmental Protection Agency (EPA) has determined that accumulation in unlined units, particularly surface impoundments, poses a substantial risk of contaminant leaching (particularly selenium and arsenic) to surface and groundwater. EPA found that use of a composite liner largely eliminated that risk. While new units are likely to be built with liners, EPA has determined that the majority in use today are older and unlikely to have liners.

### Administration and Congressional Proposals to Manage CCRs

CCR management is regulated by individual states, which EPA has found to be inconsistent in its requirements for protective measures (e.g., liners and groundwater monitoring systems). Concerns regarding the risks of improper management and inconsistent state regulations led EPA to propose national standards for CCR disposal. In June 2010, EPA released for public comment two regulatory options—one proposed under its existing authority to regulate hazardous wastes, under Subtitle C of RCRA, the other under its authority to promulgate standards applicable to “sanitary landfills,” under Subtitle D of RCRA. EPA is authorized to enforce its proposed Subtitle C standards, but could only encourage states to adopt and enforce the Subtitle D standards.

In contrast to EPA’s proposals, the proposed amendment to RCRA would create a state-based permit program for the management and disposal of CCRs. Established entirely in statute, Congress would create a program unique among environmental laws. That is, the permit program would be created with no directive to EPA to promulgate regulations applicable to the program or to CCR landfills and surface impoundments. Instead, existing regulations applicable to municipal solid waste (MSW) landfills and elements of EPA’s June 2010 proposal would apply to the program.

Stakeholders in favor of the legislative approach include industry groups concerned that implementing EPA’s Subtitle C option would stigmatize CCRs by labeling the materials “hazardous waste,” potentially reducing markets for reuse and recycling (e.g., as a component in concrete or roadbed materials). States support this approach, as it would allow them to regulate CCRs as they deem necessary. Stakeholders opposed to this approach argue that the flexibility allowed to states in deciding whether or when facilities may be required to obtain a permit, as

well as the proposed amendment's lack of federally enforceable standards applicable to CCR landfills and surface impoundments, would likely result in few changes to current state programs.

### **Scope and Purpose of This Report**

This report provides background to understand the legislative proposals to amend Subtitle D of RCRA and identifies potential challenges to implementing the proposed permit program. Considering their influence on program implementation, the report discusses the regulatory standards on which the permit program would be based. In particular, it summarizes EPA's existing (MSW) and proposed (CCR) standards relevant to the proposed CCR permit program. This report also summarizes provisions in the proposed Section 4011 of RCRA; identifies potential challenges to implementing a statutory permit program; and compares regulations applicable to MSW landfills to comparable elements of the proposed CCR permit program.

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## Introduction

Coal combustion residuals (CCRs) are the inorganic material that remains after pulverized coal is burned.<sup>1</sup> To establish consistent national standards to address potential threats to human health and the environment associated with improper management of CCRs destined for disposal, on June 21, 2010, the Environmental Protection Agency (EPA) proposed for public comment two regulatory options applicable to the material.<sup>2</sup>

Under the first proposal, EPA would reverse previous regulatory determinations to exempt CCRs from regulation as a hazardous waste and list the material as a “special waste” pursuant to its authorities under Subtitle C of the Resource Conservation and Recovery Act (RCRA; 42 U.S.C. §6901 et seq.).<sup>3</sup> Under Subtitle C, EPA has broad authority to regulate wastes it identifies as “hazardous,” from its generation to its ultimate disposal (i.e., from “cradle to grave”). Under its Subtitle C option, EPA would require CCRs, destined for disposal in a landfill or surface impoundment, to be managed in accordance with requirements or standards applicable to hazardous waste generators; owners and operators of hazardous waste treatment, storage, and disposal facilities (TSDF); and TSDF permit programs. The Subtitle C option would create federal standards enforceable by EPA, but likely adopted and implemented (and ultimately enforced) by individual states.

Under the second proposal, EPA would promulgate national standards applicable to landfills and surface impoundments that receive CCRs, in accordance with its authority regarding the management of non-hazardous solid waste under Subtitle D of RCRA. If this option were selected, the standards would be similar to those applicable to municipal solid waste (MSW) landfills, but would take into consideration issues specific to the management of CCRs, particularly controls necessary to address the accumulation of liquid wastes in surface impoundments. In contrast to its Subtitle C option, EPA has no authority to enforce the standards it proposes under the Subtitle D option. EPA is authorized to promulgate federally enforceable waste management criteria only for MSW landfills and no other facilities that may receive non-hazardous solid wastes. Instead, EPA could finalize the proposed Subtitle D standards, but they would be enforced by states that choose to adopt and apply them to owners and operators of CCR landfills and surface impoundments.

EPA’s proposal drew comments from industry groups, environmental and citizen groups, state agency representatives, individual citizens, and some Members of Congress. Concerns over the Subtitle C proposal relate to its ultimate impact in terms of implementation costs to both industry and states, energy prices, and CCR recycling opportunities. With regard to the Subtitle D proposal, the primary concerns stem from EPA’s lack of authority to enforce them. Given the

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<sup>1</sup> The substance is also commonly referred to as coal combustion *waste*, *byproduct*, or *material*. How it is referred to generally depends on the context in which it is being discussed. For example, coal combustion *waste* is generally destined for disposal, while coal combustion *byproducts* are likely destined for some use such as a component in gypsum wallboard or cement. Regardless of what it is called, these terms refer to the same substances. This report will generally refer to the substance as coal combustion *residuals* (CCR) since that term is used in the administrative and legislative proposals discussed in this report.

<sup>2</sup> U.S. EPA, “Hazardous and Solid Waste Management System; Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities,” 75 *Federal Register* 35127-35264, June 21, 2010.

<sup>3</sup> RCRA amended the Solid Waste Disposal Act of 1965. However, RCRA’s amendments were so comprehensive that the act is commonly referred to as RCRA rather than by its official title, the Solid Waste Disposal Act.

argument by many states that the material is being managed sufficiently under current state regulatory programs, environmental and citizen groups have expressed doubts over the degree to which all states would adopt them, resulting in the promulgation but not implementation of any new requirements necessary to ensure protection of human health and the environment. Commenters have proposed various legislative options in response to the varied concerns over EPA's proposed regulatory options. Possible legislative options that have been debated include an explicit directive to EPA to regulate or prohibit CCR regulation under Subtitle C or Subtitle D.<sup>4</sup>

Another legislative option, the Coal Residuals Reuse and Management Act (H.R. 2273), was passed by the House on October 14, 2011, and introduced in the Senate (S. 1751) on October 20, 2011. The proposal would amend Subtitle D of RCRA by adding Section 4011, Management and Disposal of Coal Combustion Residuals. That amendment would create a coal combustion residuals permit program, defined as "a permit program or other system of prior approval and conditions that is adopted by or for a state for the management and disposal of coal combustion residuals to the extent such activities occur in structures in such state."

Legislative provisions largely identical to those in the Coal Residuals Reuse and Management Act are included in legislation that would extend the authorization of federal funding for surface transportation programs administered by the Department of Transportation (DOT). Specifically, Title V of H.R. 4348 (passed in the House on April 18, 2012) includes language identical to H.R. 2273 and S. 1751. On April 24, 2012, the Senate agreed by unanimous consent to an amendment that struck the House-passed language from H.R. 4348 and substituted the language of the Senate-passed bill to reauthorize DOT programs (S. 1813, the Moving Ahead for Progress in the 21<sup>st</sup> Century Act, or MAP-21). The Senate subsequently asked for a conference and appointed conferees. As a result, provisions of the proposed Coal Residuals Reuse and Management Act are being debated in the conference over the transportation reauthorization legislation.

This report provides background information concerning the provisions in the proposed Section 4011 of RCRA in H.R. 2273, S. 1751, and Title V of H.R. 4348. In particular, it identifies issues associated with potential state adoption and implementation of the proposed CCR permit program. Unique to the proposal would be the creation of a permit program in federal statute, absent the promulgation of related federally enforceable standards. Requirements applicable to the program's adoption and implementation would be those created within the amendment to RCRA. It would not authorize the agency with jurisdiction over RCRA's implementation (EPA) to promulgate regulations detailing permit program requirements or regulations applicable to facilities that may be expected to obtain a permit pursuant to the program. Instead, requirements applicable to the proposed statutory CCR permit program would draw upon selected existing regulations promulgated pursuant to Subtitle D applicable to the management of municipal solid waste (MSW). It would also draw from selected elements of EPA's June 2010 Subtitle D proposal to regulate CCR landfills and surface impoundments.

Considering their influence on the potential adoption and implementation of a CCR permit program, this report identifies relevant elements of proposed and existing regulatory requirements under Subtitle D. In particular, the report distinguishes between EPA and state agency authorities in regulating nonhazardous solid wastes under Subtitle D, including EPA's role in developing and individual state roles in enforcing those requirements. The report also summarizes selected MSW

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<sup>4</sup> Such an approach can be found in H.R. 1391, the Recycling Coal Combustion Residuals Accessibility Act of 2011, and H.R. 1405.

landfill regulations and standards proposed by EPA in June 2010 under Subtitle D. Finally, with regard to the legislative proposals that would amend Subtitle D, the report summarizes provisions in the proposed Section 4011 of RCRA; identifies potential issues associated with implementing a statutory permit program; and compares details of the regulatory requirements applicable to MSW landfills, on which the legislative proposal is based, to comparable elements of the proposed CCR permit program.

As noted above, the focus of this report is the legislative proposal to amend Subtitle D of RCRA and the CCR permit program that would be created pursuant to the proposed amendment. Analysis specific to EPA's June 2010 proposal and details regarding the options it proposed under Subtitles C and D of RCRA are discussed separately in CRS Report R41341, *EPA's Proposal to Regulate Coal Combustion Waste Disposal: Issues for Congress*, by Linda Luther.

## **Background**

In 2010, 45% of the electricity generated in the United States used coal as its source of fuel. Pulverized coal burned for electricity production generates a tremendous amount of residual inorganic material. In 2010, industry estimates that as much as 130 million tons of CCRs were generated, making it one of the largest waste streams in the United States.<sup>5</sup>

Disposal of CCRs on-site at individual power plants may involve decades-long accumulation of waste—with hundreds of thousands, if not millions, of tons of dry ash (in a landfill) or wet ash slurry (in a surface impoundment pond) deposited at the site. On December 22, 2008, national attention was turned to risks associated with managing such large volumes of CCRs when a breach in a surface impoundment pond at the Tennessee Valley Authority's (TVA's) Kingston, TN, plant released 1.1 billion gallons of coal fly ash slurry, covering more than 300 acres, damaging or destroying homes and property. TVA estimates that cleanup will continue into 2014 and will cost \$1.2 billion.<sup>6</sup>

The incident at Kingston, as well as smaller incidents that resulted from improper CCR management, drew attention to the potential for a sudden, catastrophic release related to the structural failure of a surface impoundment. However, EPA has determined that a more common threat associated with CCR management is the leaching of contaminants likely present in the waste, primarily heavy metals, resulting in surface or groundwater contamination. The Kingston release also brought attention to the fact that the management of CCRs is essentially unregulated at the federal level.

## **The Nature of CCRs and Concern over CCR Management**

CCRs are the inorganic residues that remain after pulverized coal is burned. The chemical composition of CCRs generated at a given plant depends on the type and source of the coal burned, as well as the combustion technology and air pollution control technology used at the

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<sup>5</sup> See the American Coal Ash Association's "2010 Coal Combustion Product (CCP) Production & Use Survey Report" at [http://acaaffiniscape.com/associations/8003/files/2010\\_CCP\\_Survey\\_FINAL\\_102011.pdf](http://acaaffiniscape.com/associations/8003/files/2010_CCP_Survey_FINAL_102011.pdf).

<sup>6</sup> Tennessee Valley Authority, "Form 10-Q: Quarterly Report," filed with the United States Securities and Exchange Commission on May 4, 2012, for the period ending March 31, 2012, p. 19.

plant. In data maintained by EPA, the agency has identified more than 40 toxic constituents that may be present in CCRs, including antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, and selenium.<sup>7</sup>

The fact that toxic constituents are present in a waste does not in itself mean that it poses a risk to humans or the environment. The degree to which there is actual risk depends on whether those constituents can find a pathway of human exposure and whether the resulting level of exposure is likely to be high enough to cause harm. Human exposure to contaminants has been demonstrated through the direct discharge or release of liquid waste to surface water (accidentally, as in Kingston, or on purpose, generally pursuant to the provisions of a permit, or as a result of improper run-on/run-off control during rain/flood events) or through fugitive dust emissions (when fine particulates associated with the dried ash become airborne). However, the most common pathway of exposure has occurred through contaminant leaching when the waste was deposited in an unlined landfill or surface impoundment.

In 1980, EPA was statutorily required to provide an analysis of both *potential* risks and *actual* documented damages to human health and the environment from CCR disposal and use.<sup>8</sup> Since then, EPA has gathered and released data, analysis, and studies that have identified potential risks and damages associated with CCR management. Most notably, in March 2000, EPA submitted a draft “Regulatory Determination on Wastes from Fossil Fuel Combustion” to the White House Office of Management and Budget (OMB). In it, EPA stated that CCRs warranted regulation as a hazardous waste under Subtitle C of RCRA when CCRs were land disposed (e.g., disposed of in a landfill or accumulated in a surface impoundment). Further, EPA stated that it was considering developing national standards that would include a contingent hazardous waste listing of CCRs under Subtitle C. That is, EPA would *not* classify CCRs as a hazardous waste contingent upon CCR management in accordance with certain standards. However, when improperly managed (such as through disposal or accumulation in an unlined landfill or surface impoundment), CCRs would become a listed hazardous waste subject to tailored Subtitle C standards.

In its draft regulatory determination, EPA recognized that its March 2000 proposal was a departure from its previous opinions regarding the management of CCRs. However, EPA stated that its determination that CCRs warranted regulation as hazardous waste was based, in part, on data from damage cases that showed the potential threat to human health and the environment when the waste was managed in a way that lacked basic controls (e.g., disposal in units with no liner or groundwater monitoring). Additionally, EPA cited new data that identified significant risks for the waste to leach arsenic.

In May 2000, after review by OMB, EPA issued a revised regulatory determination stating that it would continue to exclude CCRs from regulation as hazardous waste under Subtitle C.<sup>9</sup> However, similar to statements in its March 2000 draft proposal, EPA stated that it was convinced that national regulations under Subtitle D were warranted for CCR disposal in landfills and surface impoundments because:

- the composition of the waste had the potential to present danger to human health and the environment in certain circumstances;

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<sup>7</sup> See EPA’s June 2010 proposal at 75 *Federal Register* 35138.

<sup>8</sup> In accordance with 42 U.S.C. §6982(n)(3)-(4) and pursuant to directive under 42 U.S.C. §6921(b)(3)(A).

<sup>9</sup> EPA Final Rule, 65 *Federal Register* 32230, May 22, 2000.



- EPA had identified proven cases of damages to human health and the environment through improper waste management;
- while industry management practices had improved measurably, there was sufficient evidence the wastes were being managed in a significant number of landfills and surface impoundments without proper controls in place, particularly in the area of groundwater monitoring; and
- while there had been substantive improvements in state regulatory programs, EPA identified significant gaps either in states' regulatory authorities or in their exercise of existing authorities.

Further, citing its concern regarding the potential mismanagement and inconsistent state regulation of CCRs, EPA stated that it would revise its determination if it found that a need for regulation under Subtitle C was warranted.

## **EPA Action After the Kingston Release**

In the wake of events at Kingston, after 10 years of additional study, debate, and controversy over the appropriate method of regulating CCRs, EPA did propose to revise its May 2000 determination. On October 16, 2009, EPA again submitted a draft proposal to revise its regulatory determination and list the material as hazardous waste under Subtitle C of RCRA.<sup>10</sup> EPA sent the draft to OMB's Office of Information and Regulatory Affairs (OIRA). As in March 2000, EPA proposed to draw on its existing authority to identify and list a waste as "hazardous" and regulate it as such pursuant to Subtitle C of RCRA. In EPA's reexamination of its 2000 regulatory determination proposal, the following findings are among the most significant:

- **Revised risk assessment findings.** EPA determined that there is a high risk of human exposure to carcinogens, such as lead, selenium, and arsenic, when CCRs are deposited into unlined landfills and surface impoundments. Higher risks were observed for surface impoundments compared to landfills due to higher waste leachate concentrations and the higher hydraulic pressure from impounded liquid waste.<sup>11</sup> The risk assessment showed that CCRs can be managed safely with the use of composite liners, but called into question the reliability of clay liners, especially in surface impoundments.<sup>12</sup>
- **Additional evidence of actual damages/contamination.** EPA updated its list of damages to include 27 cases of *proven* damages to surface and groundwater and 40 cases of *potential* damage associated with the improper management of CCRs.<sup>13</sup> In addition to impacts on human health from surface and groundwater

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<sup>10</sup> EPA's draft proposal submitted to OMB for review, as well as any notices, supporting documents, or comment on the June 2010 proposal, is available through the "regulations.gov" website at <http://www.regulations.gov> under Docket ID EPA-HQ-RCRA-2009-0640.

<sup>11</sup> EPA, Office of Solid Waste and Emergency Response, Office of Resource Conservation and Recovery, *Human and Ecological Risk Assessment of Coal Combustion Wastes*, draft updated April 2010.

<sup>12</sup> A composite liner is a system consisting of two components—an upper component that consists of a flexible membrane liner and a lower component that consists of at least a two-foot layer of compacted soil. It is defined more specifically at 40 C.F.R. §258.40(b).

<sup>13</sup> *Proven* damage cases were those with documented maximum contaminant level (MCL, the highest level of a contaminant that is allowed in drinking water under the Safe Drinking Water Act) exceedances "measured in (continued...)"

- contamination, EPA's damage cases document adverse effects to plants and wildlife.
- **The threat of a catastrophic release.** Recent damage cases, such as the Kingston release and a similar, smaller incident in 2005 in Martins Creek, PA,<sup>14</sup> were considered evidence that current management practices can pose additional risks that EPA had not previously studied—that is, from catastrophic releases due to the structural failure of surface impoundments.
  - **Continued inconsistencies among state requirements.** According to 2009 survey data, among responding states, 36% did not have minimum liner requirements for landfills, 67% did not have liner requirements for surface impoundments, 19% did not have minimum groundwater monitoring for landfills, and 61% did not have minimum groundwater monitoring for surface impoundments.<sup>15</sup> EPA noted that the survey results are “particularly significant as groundwater monitoring for these kinds of units is a minimum for any credible regulatory regime.”<sup>16</sup> Further, while the states seem to be regulating landfills to a greater extent, given the significant risks associated with surface impoundments, survey results suggest that there continue to be significant gaps in state regulatory programs for the disposal of CCRs.<sup>17</sup>
  - **The number of CCR units likely operating without protections EPA has identified as necessary.** While new CCR facilities are likely to be built with liners and groundwater monitoring systems, the majority of facilities currently in use are not new. For example, EPA determined that 75% of surface impoundments in use today are more than 25 years old, with 10% being more than 50 years old. Such units are unlikely to have a liner or groundwater monitoring, and are more likely to leach contaminants. Further, in 2004, EPA determined that 31% of the CCR landfills and 62% of the CCR surface impoundments lacked liners, and 10% of the CCR landfills and 58% of the CCR surface impoundments lacked groundwater monitoring.<sup>18</sup> EPA estimated that with an average life expectancy of approximately 31 years, those older disposal facilities would likely continue to operate without necessary protections in place well into the future.

After OMB's review, EPA's draft proposal underwent substantial changes. Its final proposal was published on June 21, 2010. In that proposal, EPA stated that the decision to revise the May 2000

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(...continued)

groundwater at a sufficient distance from the waste management unit to indicate that hazardous constituents had migrated to the extent that they could cause human health concerns.” *Potential* damage cases were those with documented MCL exceedances that were measured in groundwater beneath or close to the waste source. For more information, see EPA's June 2010 proposal at 75 *Federal Register* 35131 and 35153.

<sup>14</sup> In this case, a dam failure resulted in the release of over 100 million gallons of coal ash and contaminated water into the Oughoughton Creek and the Delaware River.

<sup>15</sup> See findings discussed in EPA's June 2010 proposal at 75 *Federal Register* 35152.

<sup>16</sup> *Ibid.*

<sup>17</sup> Summary results of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) “Combustion by-products (CCB) Survey” are available through the “regulations.gov” website at <http://www.regulations.gov>, under Docket ID EPA-HQ-RCRA-2009-0640.

<sup>18</sup> See findings discussed in EPA's June 2010 proposal at 75 *Federal Register* 35151.

regulatory determination had not yet been made, and proposed an additional regulatory option for consideration. That second regulatory option would continue to exclude CCRs from regulation as hazardous waste under Subtitle C, and establish national criteria applicable to landfills and surface impoundments under RCRA's Subtitle D nonhazardous solid waste requirements. The primary reason EPA cited for including the option to regulate CCRs under Subtitle D's solid waste requirements was industry's argument that the "hazardous waste" label would stigmatize beneficial uses of the material and ultimately increase the amount that must be disposed.

## **Existing State and Federal Authorities to Manage CCRs**

In the wake of EPA's June 2010 proposal to regulate the management of CCRs, debate over the regulatory option EPA should select has focused on existing state and federal authorities under RCRA to implement or enforce either option. Broadly, EPA currently has the authority to implement and directly enforce its Subtitle C option, but could only *encourage* states to implement and enforce its Subtitle D option. Under both regulatory options, owners and operators of CCR landfills and surface impoundments would be required to implement protective measures that are largely similar (e.g., under both options facilities would be required to install composite liners and groundwater monitoring). A significant difference between the two options would be in EPA's authority to enforce the standards directly or to require states to enforce them, summarized as follows:

- **Under the Subtitle C option**—individual facility compliance with the regulations must be demonstrated in accordance with a federal or EPA-authorized state permit program. EPA would have direct enforcement authority with regard to waste management requirements, including those applicable to CCR generators, transporters, and treatment, storage, and disposal facilities, and mechanisms for corrective action and financial responsibility. Before the rules would become effective, states authorized to implement Subtitle C programs would need to adopt the rule, a process that could take several years.
- **Under the Subtitle D option**—individual regulated facilities (e.g., power plants that dispose of/accumulate CCRs on-site) would be required to implement the standards within approximately six months of promulgation. EPA would have no direct enforcement authority to ensure facility compliance or to require states to adopt a permit program to ensure facility compliance. Instead, the standards could be enforced by states or citizens, pursuant to RCRA citizen suit authority. EPA could not require states to enforce the standards, but would *encourage* them to do so.

EPA's Subtitle D approach to regulating CCR disposal facilities is generally supported by state regulatory agencies and industry groups. Included among their arguments in favor of this approach are: there is not enough evidence that the material poses a significant threat to human health or the environment to warrant regulation as hazardous waste; regulating it as hazardous would be unnecessarily costly and burdensome to both industry and state regulators; and current state regulation of CCRs is sufficiently protective of human health and the environment. Also, industry groups argue that labeling the material as "hazardous" or regulating it under Subtitle C requirements would stigmatize the material, thus limiting potential options for reuse and ultimately increasing the amount of waste sent for disposal.

Environmental and citizen groups opposed to the Subtitle D approach have argued, in part, that EPA's recent waste characterization studies have sufficiently demonstrated the toxicity of CCRs. Further, given EPA's lack of authority to enforce it, a Subtitle D approach would not address issues identified in EPA's risk and damage case assessments. In particular, under the Subtitle D option, CCRs would likely continue to be managed in accordance with inconsistently applied state requirements. Additionally, it has been argued that reliance on citizen suits to enforce EPA's Subtitle D standards would be burdensome on the public and an unreliable method of implementing national disposal standards. Finally, under the Subtitle D proposal, EPA would have no authority to require financial assurance to insure cleanup if contamination is discovered.

## **EPA Requirements Relevant to the Proposed Legislation**

The proposed CCR permit program would draw from certain waste management standards promulgated or proposed by EPA pursuant to Subtitle D: specifically, existing regulatory standards applicable to the management of municipal solid waste (MSW) and selected proposed standards applicable to CCR landfills and surface impoundments. To understand the provisions in the proposed amendment to RCRA, it is useful to understand the requirements from which the legislative proposal would be drawn.

### **Existing Municipal Solid Waste Management Requirements**

Under Subtitle D, states have the primary authority to implement and enforce standards applicable to facilities that receive nonhazardous solid waste for disposal. However, for a narrow category of waste, EPA has limited authority to promulgate and ensure state enforcement of Subtitle D standards. That authority derives from directives included under Section 4005 of RCRA that required:<sup>19</sup>

1. EPA to promulgate regulatory criteria applicable to facilities that receive MSW;<sup>20</sup>
2. states to adopt and implement a permit program to ensure facility compliance with the MSW criteria;<sup>21</sup>
3. EPA to determine the adequacy of each state MSW permit program; and<sup>22</sup>
4. EPA to enforce its MSW criteria in states determined to have an inadequate MSW permit program.<sup>23</sup>

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<sup>19</sup> The Hazardous and Solid Waste Amendments of 1984 (HSWA; P.L. 98-616) amended Subtitle D Section 4005, "Upgrading of Open Dumps," by adding EPA and state requirements for the "Control of Hazardous Disposal" (42 U.S.C. §6945(c)), and added Section 4010, "Adequacy of Certain Guidelines and Criteria" (42 U.S.C. §6949a).

<sup>20</sup> 42 U.S.C. §6949a(c)(1). More specifically, the criteria were to apply to "solid waste management facilities that may receive hazardous household waste"; the term "municipal solid waste landfill" was subsequently used in implementing regulations.

<sup>21</sup> 42 U.S.C. §6945(c)(1)(B).

<sup>22</sup> 42 U.S.C. §6945(c)(1)(C).

<sup>23</sup> 42 U.S.C. §6945(c)(2).

As a result of these directives, EPA promulgated two separate but related federal standards:

- “Criteria for Municipal Solid Waste Landfills” in 40 C.F.R. Part 258, applicable to owners and operators of MSW landfills; and
- “Requirements for State Permit Program Determination of Adequacy” in 40 C.F.R. Part 239, applicable to states, to ensure facility compliance with the MSW landfills criteria.

## **MSW Landfill Criteria**

Under Section 4010 of RCRA, Congress specified a legal standard of protection that EPA was required to meet in promulgating the MSW landfill criteria—that criteria be “those necessary to protect human health and the environment and may take into account the practicable capability of such facilities.” At a minimum, they were to include criteria for groundwater monitoring, necessary to detect contamination; criteria for the acceptable location of new or existing facilities; and corrective action provisions, as appropriate.<sup>24</sup> EPA’s resulting criteria for MSW landfills include detailed, national technical standards under the following Subparts of 40 C.F.R. Part 258:

- Location Restrictions,
- Operating Criteria,
- Design Criteria,
- Groundwater Monitoring and Corrective Action Requirements,
- Closure/Post-Closure Care, and
- Financial Assurance Criteria.

Required elements of each Subpart are listed in **Table A-1** in **Appendix A**.

The regulations define a “municipal solid waste landfill,” in part, as a discrete area of land or an excavation that receives household waste, and that is *not* a land application unit, surface impoundment, injection well, or waste pile.<sup>25</sup> In accordance with this definition, facilities regulated under these criteria receive predominantly dry wastes. That is, the MSW landfill criteria are not intended to establish standards applicable to facilities that accumulate liquid wastes (i.e., surface impoundments).

MSW landfill units failing to satisfy MSW landfill criteria constitute “open dumps,” prohibited under Section 4005 of RCRA. However, in contrast to EPA’s limited authority to enforce that prohibition (i.e., to enforce standards applicable to sanitary landfills in 40 C.F.R. Part 257 that are enforceable largely by states), EPA was authorized to enforce its MSW landfill criteria in states that did not have an approved permit program (described below).

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<sup>24</sup> 42 U.S.C. §6949a(c)(1), as well as EPA authority to promulgate regulations as necessary to carry out its functions under RCRA (42 U.S.C. §6912(c)(1)).

<sup>25</sup> 40 C.F.R. §258.2.

## **State MSW Permit Program Requirements**

Within 18 months of EPA promulgating the MSW criteria, each state was required to adopt and implement a permit program or “other system or prior approval and conditions” to assure that each solid waste management facility within the state that may receive MSW will comply with the MSW landfill criteria.<sup>26</sup> As defined in EPA’s regulations, a state solid waste permit program refers to all the authorities, activities, and procedures that comprise the state’s system of prior approval and conditions for regulating all solid waste disposal facilities subject to the MSW landfill criteria in 40 C.F.R. Part 258. The “permit program” itself represents the body of requirements and procedures that a state must have in place in order to adequately demonstrate to EPA that it will apply the MSW landfill criteria to the owners and operators of those facilities and ensure enforcement of facility compliance. EPA requirements in 40 C.F.R. Part 239 applicable to its MSW permit program adequacy determination include:

- **Required components of a permit program application.** Details the information that must be included in a state’s permit application, including a narrative description and legal certification of the program.
- **State requirements** necessary to demonstrate the adequacy of permit programs. Details the state laws/procedures that must be in place to assure facility compliance with applicable MSW landfill criteria, including appropriate state compliance monitoring and enforcement authorities and procedures applicable to state intervention in civil enforcement proceedings.
- **EPA procedures** for making its adequacy determination. Specifies procedures and deadlines that EPA will adhere to in determining the adequacy of a state MSW permit program, including criteria under which EPA may withdraw its determination that a state has an adequate permit program.

Individual requirements applicable to EPA’s determination of state permit program adequacy, particularly as they may be compared to legislative proposals to amend Subtitle D of RCRA, are summarized in **Table B-1** in **Appendix B**.

In states determined to have an inadequate permit program or that fail to maintain an adequate program, EPA is allowed to exercise its authorities regarding facility inspection and federal enforcement as necessary to enforce applicable MSW landfill criteria. That is, the MSW landfill criteria are federally enforceable, directly by EPA, insofar as it is authorized to enforce the standards at facilities in states that it determines do not have an adequate permit program. Once a permit program is approved by EPA, a state is responsible for enforcing the federal MSW landfill standards and issuing permits to individual owners and operators of MSW landfills. The permit itself provides documentation to demonstrate the facility’s compliance with the federal and any state (if applicable) MSW landfill criteria.

The manner in which the MSW regulations must be adopted, implemented, and enforced by states illustrates the limitations to EPA’s authority under Subtitle D to require states to adopt, implement, and enforce federal standards applicable to wastes *other than* MSW. That is, EPA was explicitly authorized in RCRA to develop criteria applicable to facilities that receive “hazardous household waste” (i.e., MSW), and to determine the adequacy of state permit programs intended

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<sup>26</sup> 42 U.S.C. §6945(c)(1)(B).

to ensure facility compliance with those criteria. Beyond its authority to regulate MSW, for any other type of nonhazardous solid waste (such as CCRs), EPA may only expand upon requirements applicable to the state-enforced prohibition of open dumping. Further, EPA has no authority to require or approve/disapprove of state solid waste permit programs applicable to facilities receiving any other type of solid waste regulated under Subtitle D.

## **Proposed Standards Applicable to CCR Landfills and Surface Impoundments**

In its June 2010 proposal, EPA would promulgate the Subtitle D standards pursuant to its existing authority to promulgate regulations specifying criteria applicable to sanitary landfills.<sup>27</sup> Pursuant to Section 4004 of RCRA, the criteria would be those necessary to ensure that “no reasonable probability of adverse effects on health or the environment” will result from disposal facilities or practices.<sup>28</sup> The proposal would amend existing Criteria for Classification of Solid Waste Disposal Facilities and Practices in 40 C.F.R. Part 257 to add “Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments.” The standards would apply to owners and operators of CCR landfills and surface impoundments, defined as:

- *CCR landfill*—a disposal facility or part of a facility where CCRs are placed in or on land and which is not a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit. Landfills also include piles, sand and gravel pits, quarries, and/or large-scale fill operations. Sites that are excavated so that more coal ash can be used as fill are also considered CCR landfills.
- *CCR surface impoundment*—a facility or part of a facility that is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of CCRs containing free liquids, and which is not an injection well (e.g., holding, storage, settling, and aeration pits, ponds, and lagoons). Such units are used to receive CCRs that have been sluiced (flushed or mixed with water to facilitate movement), or wastes from wet air pollution control devices, often in addition to other solid wastes.

Although included under the Part 257 standards applicable to sanitary landfills, EPA’s regulatory proposal more closely resembles its criteria applicable to MSW landfills in 40 C.F.R. Part 258. For example, similar to the MSW landfill criteria, it would specify location restrictions, operating and design criteria, groundwater monitoring and corrective action requirements. However, when compared to the MSW landfill criteria, the significant difference in the proposed CCR standards relates to requirements EPA has identified as those necessary to ensure protection from CCR disposal, particularly the disposal of liquids (prohibited in MSW landfills). For example, requirements intended to address conditions or issues unique to disposal facilities that receive CCRs include the following:

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<sup>27</sup> Under RCRA Sections 4004 (42 U.S.C. §6944), directive to EPA to promulgate sanitary landfill criteria, and 2002 (42 U.S.C. §6912), EPA authority to review and, as necessary, revise regulation promulgated pursuant to its existing authority under RCRA.

<sup>28</sup> 42 U.S.C. §6944(a).

- New disposal facilities (landfills and surface impoundments) would be required to be placed above the natural water table and could not be located in wetlands, within 200 feet of a fault zone, or in a seismic impact zone.
- New or existing disposal facilities could not be located in an unstable area (e.g., a location susceptible to natural or human-induced events or forces capable of impairing the integrity of the unit). Existing facilities in an unstable area would be subject to closure.
- New disposal facilities would be required to be constructed with a composite liner. Within five years, existing surface impoundments would be required to have solids removed and be retrofitted with a composite liner.
- To insure structural integrity, surface impoundments would be required to operate in accordance with regulations similar to those promulgated under the Mine Safety and Health Administration (MSHA) at 30 C.F.R. §77.216.
- Facilities would be subject to fugitive dust controls and liquid run-off/run-on control specific to CCR disposal facilities.

(Differences between the existing MSW landfill criteria and EPA's proposed Subtitle D standards can be seen in a comparison of both sets of standards, listed in **Table A-1 in Appendix A.**)

If implemented, CCR facilities that fail to satisfy the Subtitle D standards would be operating in violation of RCRA's prohibition of open dumping. EPA would have no authority to directly enforce the requirements at individual facilities. Under Subtitle D's open dumping prohibition, EPA could promulgate the criteria, but could only encourage states to adopt and apply them to owners and operators of CCR disposal facilities. EPA would have no authority to require states to enforce them. Further, EPA would have no authority to develop federal approval procedures for state adoption of the criteria similar to its authority to determine the adequacy of a state MSW permit program. However, states could develop their own regulations and/or permitting programs using their solid waste laws or other state authorities.<sup>29</sup>

In its proposal, EPA notes that if *states* do not adopt the proposed CCR management standards, *facilities* would still have to comply with the proposed Subtitle D criteria, if finalized. For that reason, EPA has proposed its requirements in a way that would be self-implementing. That is, facilities could implement them without interaction with state regulatory officials. Still, if facilities choose not to self-implement the proposed criteria (particularly in a state that chooses not to adopt them), there are limited enforcement mechanisms to require facilities to do so. EPA argues that the requirement to make facility compliance information available to the public would allow citizens to enforce the requirements, if a state chooses not to. However, the ability of citizens to gather necessary information to move forward with a citizen suit could be complicated if a facility does not disclose the specified information. Again, there are limited enforcement options to compel a facility to produce that information. For example, in its proposal, EPA requires owners and operators of CCR landfills and surface impoundments to make certain facility records available to the public. However, absent state enforcement of those reporting requirements, it is uncertain whether such records would be made readily available to the public.

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<sup>29</sup> See EPA's discussions regarding the potential impact of a Subtitle D regulation on state programs in its June 2010 proposal at 75 *Federal Register* 35211.



## Legislative Proposal to Amend RCRA

The legislative proposal to amend Subtitle D of RCRA would add a Section 4011, Management and Disposal of Coal Combustion Residuals.<sup>30</sup> Under that section, a permit program for the management and disposal of CCRs would be created.

### Summary of Proposed Amendment to Subtitle D

Under the proposed amendment to RCRA, states would have the option of adopting a CCR permit program, and EPA would be required to implement the program in states that decline to do so (EPA has stated that, if enacted, all states with coal-fired power plants would likely choose to adopt the CCR permit program). Following are the key subsections of the proposed Section 4011 of RCRA:

- **“State Actions.”** Within six months of enactment, states would be required to notify EPA whether they intend to implement a CCR permit program. Within 36 months of enactment, states choosing to implement the program would be required to submit a certification to EPA regarding their permit program (required elements of that certification are similar to the required components of state MSW permit program applications in 40 C.F.R. Part 239). To adopt or implement the program, a state would be required to maintain an approved MSW landfill permit program or be authorized to implement the federal hazardous waste management program under Subtitle C of RCRA.
- **“Permit Program Specifications.”** Instead of a directive to EPA to promulgate criteria specific to owners and operators of CCR structures, states would be directed to apply “Minimum Requirements” to their permit programs. Included among those requirements are selected elements of EPA’s June 2010 proposal. Primarily, however, the specifications would apply certain “revised criteria,” defined essentially as the regulations in 40 C.F.R. Part 258, to a state permit program. (For a list of criteria applicable to the permit program included under the proposed Permit Program Specifications, compared to EPA’s detailed MSW landfill criteria and EPA’s June 2010 proposed standards, see **Table A-1** in **Appendix A**.) Each state could determine that one or more of the revised criteria are not necessary to manage CCR structures in the state and decline to apply them to its permit program.
- **“Written Notice and Opportunity to Remedy.”** Under this subparagraph, at any time, EPA would be required to identify and provide the state with written notice of deficiencies it identifies in certain elements of its permit program. EPA could identify deficiencies with regard to a state—complying with provisions required under “State Actions” and in meeting the permit program specifications, including its decision to decline to apply certain MSW landfill criteria to its permit program. EPA would be required to collaborate with the state to identify a

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<sup>30</sup> As included in Title V of H.R. 4348, currently being debated in the House and Senate conference over legislation to extend DOT authorizations, as well as the Coal Residuals Reuse and Management Act, passed in the House as H.R. 2273 and introduced in the Senate as S. 1751.

reasonable deadline for the state to remedy the deficiencies. That deadline could not be sooner than six months after the state receives the deficiency notice.

- **“Implementation by Administrator.”** Specifies that EPA would be authorized to implement a CCR permit program if a state declines to do so, notifies EPA that it will no longer implement the program, or fails to remedy program deficiencies by the agreed-upon deadline and after any judicial review brought by the state pursuant to Section 7006 of RCRA.
- **“Authority.”** Specifies that states may adopt or enforce any regulation or requirement applicable to CCRs that is more stringent or broader in scope than those in the proposed amendment. Specifies that EPA shall, with respect to the regulation of CCRs, “defer” to the states with respect to the proposed amendment to RCRA.

Further, as used in the proposed Section 4011, the following terms would be defined:<sup>31</sup>

- **Coal Combustion Residuals**—materials defined under Section 3001 of RCRA (i.e., fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels as specified under 42 U.S.C. Section 6921(b)(3)(A)(i)), including recoverable materials from such wastes, as well as descriptions of CCRs used in previous EPA regulatory determinations regarding its management (e.g., coal combustion wastes that are co-managed with wastes produced in conjunction with the combustion of coal, provided that such wastes are not segregated and disposed of separately from the coal combustion wastes and comprise a relatively small proportion of the total wastes being disposed in the structure).
- **Coal Combustion Residuals Permit Program**—a permit program or other system of prior approval and conditions that is adopted by or for a state for the management and disposal of coal combustion residuals to the extent such activities occur in structures in such state.
- **Structure**—a landfill, surface impoundment, or other land-based unit which may receive coal combustion residuals.
- **Revised criteria**—the criteria promulgated for MSW landfill units under Section 4004(a) and Section 1008(a)(3), as revised under Section 4010(c) in accordance with the requirement of such section that the criteria protect human health and the environment (i.e., the MSW landfill criteria in 40 C.F.R. Part 258).

## **A Statutory Versus a Regulatory Permit Program**

The proposed amendment to RCRA would create a state-based permit program under Subtitle D that uses the MSW landfill requirements as its basis, but does not direct EPA to develop standards applicable to its adoption or implementation. By creating such a program entirely within the proposed statute, Congress would create a permit program unique among environmental laws.

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<sup>31</sup> Under proposed Section 4011(k).

Generally, for other environmental laws, Congress has specified a legal standard of protection, then directed EPA to develop criteria necessary to meet that standard. More simply, Congress would likely declare, either generally or in specific detail, *why* or *what* standards are needed, then direct EPA to promulgate regulations detailing *how* those standards should be met. Generally, regulatory standards would apply to an entity explicitly identified in statute (e.g., facilities that receive MSW for disposal). Before it could promulgate final federal agency standards, EPA would be required to allow the public an opportunity to comment on its regulatory proposal and to respond to those comments. Once finalized, depending on the statutory directive, the standards may or may not be federally enforceable. That is, Congress may give EPA express authority to both promulgate certain standards and enforce them, or to just promulgate standards and require states to enforce them. Generally, most federal environmental standards are enforced by states, pursuant to some EPA authorization or approval (also, as explicitly required in statute).

Congressional directives regarding some environmental standards have been broad and subject to a certain degree of discretion or interpretation by EPA. For example, in its directive to EPA to develop MSW landfill criteria, Congress broadly required the criteria to be those “necessary to protect human health and the environment,” but specified the need for minimum requirements applicable to groundwater monitoring, location restrictions, and corrective action.<sup>32</sup>

Over the past several years, some industry groups and state regulatory agencies, as well as some Members of Congress, have charged that EPA has overreached its authority in promulgating certain environmental regulations. Particular focus has been directed at EPA efforts to develop federal standards to address greenhouse gas emissions, as well as emissions of other conventional pollutants, pursuant to the Clean Air Act. (See CRS Report R41561, *EPA Regulations: Too Much, Too Little, or On Track?*, by James E. McCarthy and Claudia Copeland.)

Charges of overreaching its regulatory authority have also been cited by certain opponents to EPA’s proposal to identify and regulate CCRs as a hazardous waste under Subtitle C. Creation of a CCR permit program in the proposed amendment to RCRA could be seen as an effort to create a mechanism to manage CCRs that would allow states wide discretion in adopting and implementing the program, while limiting the potential involvement of EPA. However, given the limits to EPA’s role in program development or implementation, it is unclear whether a CCR permit program implemented under the proposed Section 4011 would result in a state applying regulatory standards to CCR landfills or surface impoundments that would differ appreciably from those it currently applies.

As a statutory permit program, requirements that would serve as “regulations” applicable to the permit program are those contained within the proposed Section 4011. How such a permit program may ultimately be implemented, when compared to the MSW management program on which it is based, is difficult to determine. To recognize the similarities and distinct differences between the two, it is useful to compare provisions in the proposed CCR permit program to existing requirements applicable to MSW landfills, as well as elements of EPA’s June 2010 proposal to regulate CCR disposal facilities under Subtitle D.

As detailed in the discussion of “Existing Municipal Solid Waste Management Requirements,” above, the federal regulatory framework applicable to MSW management was developed as a result of four distinct yet interrelated directives in Subtitle D that required (1) EPA to promulgate

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<sup>32</sup> 42 U.S.C. §6949a(c)(1).

national criteria applicable to MSW landfills; (2) states to adopt a permit program to assure facility compliance with those criteria; (3) EPA to determine the adequacy of state permit programs; and (4) EPA to enforce the MSW landfill criteria in states with an inadequate permit program. In contrast, EPA's June 2010 Subtitle D proposal and the proposed Section 4011 of RCRA would each include only a single element of the four directives that resulted in a federally enforceable program to manage MSW. That is:

- **EPA's Subtitle D proposal** would promulgate standards applicable to owners and operators of CCR landfills and surface impoundments.
- **Proposals to amend RCRA** would create a permit program applicable to states.

Absent an explicit directive or authorities comparable to those applicable to MSW management, neither EPA's Subtitle D proposal nor the legislative proposals to amend RCRA involve the creation of federally enforceable standards applicable to owners and operators of CCR landfills or surface impoundments. Under EPA's Subtitle D proposal, federal standards applicable to owners and operators would be promulgated, but not federally enforceable. Under the proposed Section 4011, selected elements of the MSW landfill requirements and EPA's June 2010 proposal would apply to a CCR permit program, but no federal standards would be applied directly to owners and operators of CCR structures or provide for conditions under which any national standards may be federally enforceable. There are certain key directives missing from the proposed Section 4011 that would need to be included to explicitly require states to apply standards, similar to those applicable to MSW landfills, directly to CCR structures. This can be seen when the regulatory criteria applicable to the management of MSW are compared to the statutory requirements that would apply to a CCR permit program, as detailed in the proposed Section 4011.

### **"Permit Program Specifications" Compared to MSW Landfill Criteria**

Instead of applying regulatory criteria to CCR structures (the entities that may be expected to obtain a CCR permit under the proposed program), Permit Program Specifications<sup>33</sup> in the proposed Section 4011 apply certain requirements to the *CCR permit program*. The proposed subsection includes three provisions specifying:

1. **"Minimum Requirements" applicable to a CCR permit program**—described as the "revised criteria" included under provision 2, except as provided in provision 3, as well as certain additional specifications for surface impoundments.
2. **"Revised Criteria" applicable to the program**—lists the MSW landfill criteria, including specific location restrictions, design criteria, groundwater monitoring and corrective action requirements, closure, and post-closure for existing, new, and lateral expansions of existing, or all (new and existing), structures receiving CCRs after the date of enactment of Section 4011.
3. **Program limitations**—specifies that a state may determine that one or more of the requirements of the revised criteria (listed in provision 2) are not needed for CCR management in that state, and may decline to apply them as part of its CCR permit program.

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<sup>33</sup> Under proposed Section 4011(c).

Pursuant to those provisions, the minimum program specifications, including any revised criteria/MSW landfill regulations, would apply to the CCR *permit program*, generally as a state deems necessary. As such, those requirements are not explicitly applicable to owners and operators of CCR structures. Additionally, the program proposed under Section 4011 is not defined as one that is intended to assure facility compliance with certain standards (i.e., the revised criteria listed under the permit program specifications). Instead, it is described as being for the management and disposal of CCRs to the extent that it occurs in structures in the state. By specifying that the MSW landfill criteria would apply to a CCR permit program or that the listed criteria are “for” structures, it may be assumed that Congress *intended* states to apply the listed MSW criteria to owners and operators of CCR structures. The program specification’s “Minimum Requirements” includes the following provision that appears intended to apply certain criteria specifically to CCR surface impoundments:

The coal combustion residuals permit program shall apply the revised criteria promulgated pursuant to section 4010(c) for location, design, groundwater monitoring, corrective action, financial assurance, closure, and post-closure described [as the Revised Criteria] in paragraph (2) and the specifications described in this paragraph to surface impoundments.<sup>34</sup>

Those surface impoundment specifications that appear to be drawn in part from EPA’s June 2010 proposal, would be:

- Each structure shall be designed, constructed, and maintained to provide for containment of the maximum volumes of CCRs appropriate for the structure “in accordance with generally accepted engineering standards for the structural integrity of such structures.”
- If the agency implementing the CCR permit program determines that a structure classified as “a high hazard” (pursuant to certain Federal Emergency Management Agency guidelines) is deficient with regard to its structural integrity, that agency is authorized (but not explicitly directed) to require action to correct the deficiency, according to a schedule determined by the agency, and close the structure if the deficiency is not corrected within that time frame.
- New structures first receiving CCRs after enactment of Section 4011 shall be constructed with a base located a minimum of 2 feet above the upper limit of the natural water table.

Still, by describing the program specification “Minimum Requirements,” including those above, as specifications “for a CCR permit program,” it is unclear whether states would be required to apply them to owners and operators of CCR structures. With no directive explicitly included in the proposed legislation, it cannot be assumed that states would choose to do so.

If a state did choose to apply the permit program specifications to CCR landfills and surface impoundments, the provisions included under the Minimum Requirements and Revised Criteria would be significantly different from those identified by EPA as necessary to address the risks associated with improper CCR disposal. For example, in contrast to EPA’s June 2010 proposal, the CCR permit program specifications do not include requirements that owners and operators of CCR structures:

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<sup>34</sup> Under proposed Section 4011(c)(1)(C).

- construct new landfills and surface impoundments using a composite liner or retrofit existing surface impoundments with a composite liner;
- close structures that did not meet certain location restrictions;
- inspect surface impoundments weekly for structural weaknesses; or
- apply groundwater monitoring requirements before CCRs could be placed in a new unit and within a year of enactment for all existing CCR units.

Additionally, absent from the proposed Section 4011 are requirements comparable to those applicable to MSW landfills that would specify time frames for facility compliance. For example, compliance deadlines applicable to MSW landfill owners/operators were explicitly listed under 40 C.F.R. Part 25 (depending on various factors, but generally not later than 1994). For the CCR permit program, a state would only be required, within three years of enactment of Section 4011, to certify that it has a program in place. It does not specify a time frame for states to ensure facility compliance with the standards applicable to the permit program.

Also, if a state did choose to apply the criteria similar to those applicable to MSW landfills to CCR structures, it is uncertain to which structures states may apply those criteria. Under Section 4011, the term “structures” would be broadly defined as a “landfill, surface impoundment, or other land-based unit which may receive coal combustion residuals.” The terms “landfill” and “surface impoundment” have been defined by EPA in existing regulations and specifically to CCR accumulation units in its June 2010 proposal (see “Proposed Standards Applicable to CCR Landfills and Surface Impoundments,” above). A state may incorporate details in those proposed/existing definitions. However, absent a more detailed definition in statute, it would appear that states would have discretion to define “structures” more broadly or narrowly. For example, a state may choose to define a CCR surface impoundment similarly to EPA’s proposed definition, with the addition that it include units designed to hold an accumulation of a specific amount of free liquids or that a CCR landfill be one that covers a certain discrete land area. The term “other land-based unit” is not defined in RCRA or in any proposed or existing RCRA standards. Taken with the definition of the CCR permit program as one for the “management and disposal” of CCRs, it would appear that other land-based units that may receive CCRs could include land applications of the material, such as sites where it is used as structural or embankment fill or as road bed material.

Given the issues discussed above, it is unclear whether or when a state may adopt or implement a CCR permit program that would apply compliance standards to owners and operators of CCR structures. If states did, it is difficult to speculate whether states would apply standards that would vary substantially from current state practices.

To allow for a comparison of potential protection that may result *if* the criteria listed under the Permit Program Specifications were applied directly to owners and operators, both the Minimum Requirements and specifically identified Revised Criteria are listed in **Table A-1**, a “Comparison of Waste Disposal Unit Criteria,” in **Appendix A**. Since the Permit Program Specifications broadly apply the MSW landfill criteria to a CCR permit program, but allow states to apply them as they deem necessary, **Table A-1** does not necessarily list each potentially applicable requirement included under the MSW landfill criteria. Instead, it highlights requirements that would differ substantially from the standards applicable to owners and operators of CCR landfills and surface impoundments, identified by EPA as those necessary to achieve necessary protection associated with the accumulation and disposal of CCRs.

## **A CCR Permit Program Compared to an MSW Permit Program**

An MSW permit program, both as its purpose is delineated in statute and as it is implemented in accordance with EPA regulations, is substantially different from the CCR permit program in the proposed amendment to RCRA. Pursuant to the existing Section 4005 of RCRA, not later than 18 months after the promulgation of MSW landfill criteria, each state was required to adopt and implement “a permit program or other system or prior approval and conditions” to assure that each MSW facility in the state that may receive hazardous household waste (i.e., MSW) will comply with the criteria.<sup>35</sup>

In contrast, a CCR permit program would be a program adopted by a state “for the management and disposal of coal combustion residuals to the extent such activities occur in structures in such state.” Under that definition, it would appear that a state could use the program broadly, but not necessarily as a mechanism to assure facility compliance with certain standards.

Also under Section 4005 of RCRA, EPA was directed to approve state MSW permit programs. Pursuant to that directive, in 40 C.F.R. Part 239, EPA detailed: (1) the required components of a state permit program application; (2) required state authorities and processes necessary to assure that the state would both implement and enforce facility compliance with the MSW landfill criteria; and (3) its responsibilities in approving a state’s permit program, including conditions under which EPA approval may be withdrawn (resulting in the potential EPA enforcement of MSW landfill criteria at facilities in that state).

Within 36 months of enactment of the proposed Section 4011, pursuant to provisions applicable to “State Actions,”<sup>36</sup> the state agency responsible for implementing the CCR permit program would be required to certify to EPA that its program meets the Permit Program Specifications. Required elements of that certification are similar to the required components of a state MSW permit program. Beyond those requirements, the proposed Section 4011 includes few provisions comparable to the regulatory requirements in Part 239. Absent their inclusion, it would appear that directives or requirements similar to those applicable to an adequate MSW permit program would not apply to the adoption or implementation of CCR permit program. For example, in contrast to requirements explicitly required of an EPA-approved MSW permit program, Section 4011 includes no comparable provisions that explicitly require a state to demonstrate or ensure that its CCR permit program:

- has authorities and procedures in place to ensure that CCR structures comply with the relevant criteria;
- will uniformly apply permit program conditions to all CCR structures within the state’s jurisdiction;
- will require owners and operators of all new CCR structures to obtain a permit before the facility begins operation and operate that structure in accordance with permit conditions; or
- will require owners and operators of all existing CCR structures to obtain a permit and operate in accordance with permit conditions by a certain deadline.

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<sup>35</sup> 42 U.S.C. §6945(c)(1)(B).

<sup>36</sup> Under proposed Section 4011(b).

Absent such explicit directive, a state implementing a CCR permit would not necessarily have to require owners and operators of all CCR structures to either obtain a permit or to operate its facility in accordance with specific criteria. In order to adopt or implement a CCR permit program, a state would be required to maintain a permit program approved pursuant to requirements in Part 239 or be authorized to implement hazardous waste program requirements established under Subtitle C of RCRA.<sup>37</sup> As a result, a state adopting a CCR permit program would have enacted laws and implemented procedures as required under Part 239. It is unclear, however, the degree to which a state having an approved MSW permit program intended to ensure compliance with the MSW landfill regulations would amend state laws or adapt its procedures as necessary to apply those requirements to the management and disposal of CCRs in structures in that state. It is also unclear whether a state would be required to apply its permit program to all or some CCR structures in the state.

Compared to its responsibilities regarding the MSW permit program, EPA's role in state adoption and implementation of a CCR permit program would also be significantly different. For MSW landfill permit programs, EPA may approve, disapprove, or partially approve a state program pursuant to criteria it developed under Part 239. EPA's role in state adoption of the proposed CCR permit program is specified largely in provisions regarding "Written Notice and Opportunity to Remedy."<sup>38</sup> In that capacity, EPA would be required to provide a state with notice and an opportunity to remedy deficiencies, if at any time the state:

- does not satisfy provisions applicable to State Actions with regard to its notification to EPA regarding its intent to implement a program, certification to EPA regarding its permit program, and maintenance of an approved MSW landfill permit program or an authorized hazardous waste management program;
- is not implementing a CCR permit program that meets the permit program specification minimum requirements (including a state's decision to not apply certain revised criteria to its permit program).

The time frame for a state to address deficiencies identified by EPA would be uncertain. If a state is notified of a deficiency, it would be required to work with EPA to establish a "reasonable deadline," but one not sooner than six months after receiving EPA's notice identifying the deficiencies. EPA would be required to implement a CCR permit program if it determines the state program has deficiencies (within the limits specified above), but only after the state fails to remedy the deficiencies by the agreed-upon deadline and any judicial review brought by the state under section 7006 of RCRA is resolved.

Beyond these criteria, EPA would not be directed to determine whether other elements of a state CCR permit program are deficient or whether state regulatory programs are adequate to minimize risks associated with improper accumulation and disposal of CCRs. In contrast, pursuant to requirements in Part 239, EPA must both approve a state's MSW permit program and could have a role in its future implementation, including the ability to withdraw its adequacy determination.

To illustrate the differences between an MSW permit program and the proposed CCR permit program, **Table B-1** in **Appendix B** lists the required elements in Part 239 and identifies relevant requirements included or excluded in the proposed Section 4011 of RCRA.

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<sup>37</sup> Under proposed Section 4011(b)(3).

<sup>38</sup> Under proposed Section 4011(d).



## Conclusion

Among its reasons for proposing national standards applicable to CCR accumulation and disposal facilities, EPA identified the need to ensure that both new and existing facilities would operate in a way that minimized potential contaminant leaching (primarily through the use of composite liners) and that would monitor groundwater to determine if such leaching has occurred. EPA has determined that states do not consistently require such protective measures, particularly at existing CCR surface impoundments. To address those concerns, when considering EPA's proposal under Subtitle D and legislative proposals to amend RCRA, the most relevant question may be "Would either approach change current state practices?" The answer is not clear.

Neither proposal would apply federally *enforceable* standards to owners and operators of CCR landfills or surface impoundments. EPA's proposal would apply national standards to those facilities, but they would not be directly enforceable by EPA. Instead, it would be up to individual states to determine the degree to which they may adopt, implement, and enforce the standards. For example, a state may choose to apply EPA's standards to new CCR disposal facilities, but not necessarily to existing facilities—those that EPA has identified as being more likely to operate without necessary protections. The legislative proposal to amend RCRA would create a CCR permit program that would give states broad discretion in determining how, when, and to which facilities they may apply new regulatory standards. In comments submitted by state agencies in the wake of EPA's June 2010 proposal, most state agency officials argued that their own regulatory programs sufficiently address CCR management. It would seem unlikely that, absent an explicit federal directive to do so, a state would choose to implement a CCR permit program that would vary significantly from its current waste management program.

## Appendix A. Comparison of Existing and Proposed Disposal Facility Criteria

The first and second columns in **Table A-1** list existing regulatory criteria applicable to MSW landfills in 40 C.F.R. 258 and comparable standards, proposed by EPA to be added under 40 C.F.R. Part 257, applicable to CCR landfills and surface impoundments. Listed under each column are individual requirements specifying location restrictions, operating criteria, design criteria, groundwater monitoring and corrective action, closure and post-closure care, and financial assurance. Table cells with an asterisk indicate the lack of a corresponding requirement between the two standards. When individual requirements are largely similar, only the regulatory heading is included. When there is a significant difference between two requirements, additional information is provided to clarify that difference. Broadly, the most significant differences pertain to the potential regulation of surface impoundments. For example, requirements that would provide protections specific to the disposal of liquids are not included in Part 258 because bulk disposal of liquids is prohibited in MSW landfills. In comparison, EPA's June 2010 Subtitle D proposal includes various requirements intended to address issues unique to the management of CCRs, particularly the accumulation of liquids in surface impoundments—with regard to both the higher potential risk of a catastrophic release associated with a structural failure and contaminant leaching from those units.

The third column lists CCR Permit Program Specifications included under the “Minimum Requirements” and “Revised Criteria” that would apply to the permit program in the proposed Section 4011 of RCRA. As discussed previously, by creating a permit program, the proposed amendment to RCRA does not attempt to create standards applicable to owners and operators of CCR landfills and surface impoundments. For example, the following provision is included under the program Minimum Requirements: “The specifications described in this subsection for a coal combustion residuals permit program are as follows: (A) The revised criteria described in [proposed Section 4011(c)(2)] *shall apply to a coal combustion residuals permit program.*”<sup>39</sup>

Further, those revised criteria/MSW landfill criteria would apply to a CCR permit program except as a state may determine that one or more are not needed for the management of CCR in that state and decline to apply it. Information included under the third column in **Table A-1** is intended to identify Permit Program Specifications that, if a state chose to apply them to owner/operators of CCR structures, would be similar to or distinctly different from EPA's June 2010 proposal applicable to CCR landfills and surface impoundments.

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<sup>39</sup> Under proposed Section 4011(c)(1)(A).

**Table A-I. Comparison of Waste Disposal Unit Criteria**

<p><b>Municipal Solid Waste Landfill Criteria</b> (in 40 C.F.R. Part 258)</p>	<p><b>EPA’s Proposed Standards for CCR Landfills and Surface Impoundments</b> (in 40 C.F.R. Part 257)</p>	<p><b>Proposed Section 4011 “Permit Program Specifications” for a CCR Permit Program</b> (Minimum Requirements and Revised Criteria)</p>
<p><b>Overview.</b> The MSW landfill regulations provide minimum, national technical criteria applicable to owners and operators of all new MSW landfill units, lateral expansions of existing units, as well as and existing MSW landfills (in accordance with various deadlines for compliance).</p> <p><b>Relevant definitions.</b> “MSW landfill landfills” are defined, in part, as a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile. In accordance with this definition, facilities regulated under these criteria receive predominantly dry wastes.</p>	<p><b>Overview.</b> Under its Subtitle D regulatory option, EPA would revise the existing criteria applicable to sanitary landfills, to add standards that would apply to new landfills and surface impoundments that receive CCRs, as well as lateral expansions to existing facilities. The standards would apply to existing facilities in accordance with various deadlines for compliance.</p> <p><b>Relevant definitions.</b> “CCR landfills” are defined as a disposal facility or part of a facility where CCRs are placed in or on land and is not a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit. Landfills would also include piles, sand and gravel pits, quarries, and/or large-scale fill operations. Sites that are excavated so that more coal ash can be used as fill are also considered CCR landfills.</p> <p>“CCR surface impoundments” are defined as a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is designed to hold an accumulation of CCRs containing free liquids (e.g., a holding, storage, settling, or aeration pit, pond, and lagoon).</p>	<p><b>Overview.</b> The proposed Permit Program Specifications include requirements that would apply to a CCR permit program, as described in provisions listing “Minimum Requirements” and “Revised Criteria.” The Minimum Requirements include several explicitly for surface impoundments. Listed under Revised Criteria is each subpart of the MSW landfill regulations, as well as detailed requirements within each subpart. These specifications would apply to the permit program, not directly to the owners and operators of CCR structures. Additionally, states may determine that one or more of the Revised Criteria is not needed to manage CCRs in that state and may decline to apply them to its CCR permit program.</p> <p><b>Relevant definitions.</b> A “structure” would be defined as a landfill, surface impoundment, or other land-based unit that may receive CCRs. Individual terms used in that definition are not further defined.</p> <p>“Revised criteria” would be defined as the criteria promulgated for MSW landfill units under Section 4004(a) and Section 1008(a)(3), as revised under Section 4010(c) in accordance with the requirement of such section that the criteria protect human health and the environment (i.e., the MSW landfill criteria in 40 C.F.R. Part 258). Each subpart of the MSW landfill regulations and selected individual requirements under each subpart are also listed under Revised Criteria provisions in the proposed Permit Program Specifications.</p>

Municipal Solid Waste Landfill Criteria (in 40 C.F.R. Part 258)	EPA's Proposed Standards for CCR Landfills and Surface Impoundments (in 40 C.F.R. Part 257)	Proposed Section 401 I "Permit Program Specifications" for a CCR Permit Program (Minimum Requirements and Revised Criteria)
<b>Subpart B—Location Restrictions</b>		
Restrictions applicable to new units and lateral expansions and those requiring closure of existing units.		
§258.10 Airport safety.	* No similar requirement.	
§258.11 Floodplains.	* No similar requirement.	
* No similar requirement.	§257.60 Placement above the natural water table—requires new CCR landfills and surface impoundments receiving CCRs to be constructed with a base located a minimum of two feet above the upper limit of the natural water table.	Under the program's proposed Minimum Requirements, new structures that first receive CCRs after the date of enactment of Section 401 I shall be constructed with a base located a minimum of two feet above the upper limit of the natural water table.
§258.12 Wetlands.	§257.61 Wetlands.	For new structures and lateral expansions of existing structures that first receive CCRs after the date of enactment, the revised criteria for location restrictions in §§258.11 through 258.15.
§258.13 Fault areas.	§257.62 Fault areas.	
§258.14 Seismic impact zones.	§257.63 Seismic impact zones.	
§258.15 Unstable areas.	§257.64 Unstable areas.	For existing structures that receive CCRs after the date of enactment, the revised criteria for location restrictions in §§258.11 and 258.15.
§258.16 Closure of existing municipal solid waste landfill units—required closure of MSW landfills that could not demonstrate compliance with location requirements pertaining to airports, floodplains, or unstable areas.	§257.65 Closure of existing CCR landfills and surface impoundments—would require closure of existing CCR disposal units that cannot demonstrate compliance with location requirements pertaining to unstable areas. Closure would be required within five years, but may be extended under certain circumstances.	Permit Program Specifications are not supplemented to require the closure of existing structures that do not meet location restrictions pertaining to unstable areas.

Municipal Solid Waste Landfill Criteria (in 40 C.F.R. Part 258)	EPA's Proposed Standards for CCR Landfills and Surface Impoundments (in 40 C.F.R. Part 257)	Proposed Section 401 I "Permit Program Specifications" for a CCR Permit Program (Minimum Requirements and Revised Criteria)
<p><b>Subpart C—Operating Criteria</b> Daily operating standards for running and maintaining regulated disposal units.</p>		
§258.20 Procedures for excluding the receipt of hazardous waste.	* No similar requirement.	
§258.21 Cover material requirements.	* No similar requirement.	
§258.22 Disease vector control.	* No similar requirement.	
§258.23 Explosive gases control.	* No similar requirement.	
§258.24 Air criteria—Requires MSW landfill units to comply with State Implementation Plans and prohibit open burning.	§257.80 Air criteria—differs from MSW criteria in that the criteria specify fugitive dust controls.	For all structures that receive CCRs after the date of enactment, the revised criteria for air quality in §258.24.
§258.25 Access requirements.	* No similar requirement.	Under the program's proposed Minimum Requirements, a state implementing a CCR permit program would have the authority to address wind dispersal of dust from CCRs by requiring dust control measures, as determined appropriate by the head of the lead state agency responsible for implementing the permit program.
§258.26 Run-on/run-off control systems.	§257.81 Run-on/run-off control systems—requires an independent registered professional engineer to certify that the design of the run-on/run-off control system meets the requirements of this section; and the owner/ operator to notify the state that the design has been placed in the operating record and on the owner's or operator's publicly accessible internet site. Also requires the owner/operator to prepare a report, certified by an independent registered professional engineer, that documents how relevant calculations were made, and how the control systems meet the requirements of this subpart and notify the state that the report has been placed in the operating record and made available to the public on the owner/ operator's publicly accessible internet site.	For landfills and other land-based units that receive CCRs after the date of enactment, the revised criteria for run-on/run-off control systems under §258.26.
§258.27 Surface water requirements.	§257.82 Surface water requirements.	For surface impoundments that receive CCRs after the date of enactment, the criteria for run-off control systems from the active portion of the landfill to collect and control at least the water volume resulting from a 24-hour, 25-year storm the revised criteria under §258.26(a)(2).
		Design certification and reporting requirements, similar to those in EPA's proposal, are not included in the proposed Permit Program Specifications.
		For all structures that receive CCRs after the date of enactment, the revised criteria for surface water in §258.27.

<p><b>Municipal Solid Waste Landfill Criteria</b> (in 40 C.F.R. Part 258)</p>	<p><b>EPA’s Proposed Standards for CCR Landfills and Surface Impoundments</b> (in 40 C.F.R. Part 257)</p>	<p><b>Proposed Section 401 I “Permit Program Specifications” for a CCR Permit Program</b> (Minimum Requirements and Revised Criteria)</p>
<p>§258.28 Liquids restrictions—prohibits disposal of bulk or noncontainerized liquid waste in MSW landfills. If similarly applied to CCR units, this restriction may essentially prohibit liquid disposal of CCRs (i.e., surface impoundment disposal).</p> <p>* No similar requirement.</p> <p>§258.29 Recordkeeping requirements.</p>	<p>* No similar requirement.</p> <p>§257.83 Surface impoundment inspection requirements—requires surface impoundments to be inspected weekly for appearances of structural weakness. The proposal specifies when such inspections must occur and who would be qualified to conduct them. It also would require certain responses in the event hazardous conditions are identified.</p> <p>§257.84 Recordkeeping requirements—differs from MSW criteria in that records required to be kept include those that document/demonstrate annual surface impoundment inspections (something that is not required under the MSW criteria). EPA’s proposal also specifies that the records must be publicly accessible via the internet.</p>	<p>Surface impoundment inspection requirements, similar to those in EPA’s proposal, are not included in the proposed Permit Program Specifications.</p> <p>For all structures that receive CCRs after the date of enactment, the revised criteria for recordkeeping under §258.29.</p> <p>Recordkeeping requirements, similar to those in EPA’s proposal, are not included in the proposed Permit Program Specifications.</p>
<p align="center"><b>Subpart D—Design Criteria</b></p> <p align="center">Liner and leachate collection requirements sufficient for groundwater to meet maximum contaminant levels for selected chemicals.</p>		<p>For new structures and lateral expansions of existing structures that receive CCRs after the date of enactment, the design criteria in §258.40.</p> <p>In contrast to EPA’s June 2010 proposal, states implementing a CCR permit program would be allowed to apply site-specific conditions to a structure’s design instead of requiring only the use of composite liners.</p>
<p>§258.40 Design criteria—requires new MSW landfills or expansions of existing units to either install a composite liner or to allow the facility design to be based on site-specific conditions. Design criteria did not apply to existing units (i.e., units were not required to be retrofitted to meet the new liner requirements).</p>	<p>§257.70 Design criteria for new CCR landfills and lateral expansions—would require new/expanding CCR landfills to have composite liners and leachate collection and removal systems similar to those required under §258.40. EPA stated that its decision was based on its experience that such a liner design would be expected to be effective in mitigating the risks of leaching contaminant to groundwater from a waste such as CCRs. EPA did not modify the design criteria to allow for the consideration of site-specific conditions in individual CCR landfill design.</p>	<p>For new structures and lateral expansions of existing structures that receive CCRs after the date of enactment, the design criteria in §258.40.</p> <p>In contrast to EPA’s June 2010 proposal, states implementing a CCR permit program would be allowed to apply site-specific conditions to a structure’s design instead of requiring only the use of composite liners.</p>

<p><b>Municipal Solid Waste Landfill Criteria</b> (in 40 C.F.R. Part 258)</p>	<p><b>EPA's Proposed Standards for CCR Landfills and Surface Impoundments</b> (in 40 C.F.R. Part 257)</p>	<p><b>Proposed Section 401 I "Permit Program Specifications" for a CCR Permit Program</b> (Minimum Requirements and Revised Criteria)</p>
<p>* No similar requirement.</p>	<p>§257.71 Design criteria for existing CCR surface impoundments—existing units would require a composite liner, similar to that required of CCR landfills. Units would require retrofitting with a liner within five years of the effective date of a final rule or be subject to closure. EPA also proposed a “D Prime” option. Under this modification, the regulations would not require surface impoundment closure or retrofitting with a liner; rather, these surface impoundments could continue to operate for the remainder of their useful life. The other co-proposed Subtitle D requirements would remain the same.</p> <p>Specific to surface impoundment units that continue to operate, EPA’s proposal would require design and inspection requirements similar to those of the Mine Safety and Health Administration (MSHA), including requirements that an independent registered professional engineer certify that the impoundment’s design is in accordance with engineering practices applicable to that unit; weekly inspections to identify potentially hazardous conditions or structural weakness; and annual inspections by an independent registered professional engineer to assure design, operation, and maintenance of the unit is in accordance with engineering practices applicable to that unit.</p>	<p>Under the program’s proposed Minimum Requirements, the design, construction, and maintenance of each structure must be “in accordance with generally accepted engineering standards for the structural integrity of that structure.” If the state agency implementing the CCR permit program determines the structure to be “deficient” (including structures classified as posing a high hazard pursuant to Federal Emergency Management Agency guidelines), the agency has the authority to require action to correct the deficiency. If a deficiency is not corrected, the agency may require the structure to close. In contrast to EPA’s June 2010 proposal, criteria for determining such a deficiency, such as design or inspection requirements, are not specified.</p> <p>A requirement that existing units be retrofitted with a liner or requirements similar to those in EPA’s D Prime option, are not included in the proposed Permit Program Specifications.</p>
<p>* No similar requirement.</p>	<p>§257.72 Design criteria for new CCR surface impoundments and lateral expansions—essentially identical to the provisions applicable to <i>existing</i> CCR surface impoundments with regard to composite liner requirements and the additional criteria applicable to surface impoundment design, inspection, and recordkeeping.</p>	<p>The proposed Permit Program Specifications do not include design criteria for new CCR surface impoundments, similar to those in EPA’s June 2010 proposal, except with regard to identifying deficiencies in structures, as described above.</p>
<p>§258.41 Project XL Bioreactor Landfill Projects.</p>	<p>* No similar requirement.</p>	
<p>§258.42 Approval of site-specific flexibility requests in Indian country.</p>	<p>* No similar requirement.</p>	

Municipal Solid Waste Landfill Criteria (in 40 C.F.R. Part 258)	EPA's Proposed Standards for CCR Landfills and Surface Impoundments (in 40 C.F.R. Part 257)	Proposed Section 401 I "Permit Program Specifications" for a CCR Permit Program (Minimum Requirements and Revised Criteria)
<p align="center"><b>Subpart E—Groundwater Monitoring and Corrective Action</b> Requirements necessary to detect and respond to potential groundwater contamination.</p>		
<p>§258.50 Applicability—all MSW landfill units unless the owner/operator can demonstrate that there is no potential for migration of hazardous constituents from the unit. The criteria specify a time-table of compliance based on the proximity of the unit to a drinking water intake source.</p>	<p>§257.90 Applicability—all <i>existing</i> CCR units would be required to comply with the groundwater monitoring requirements within one year of the effective date of a final rule; <i>new</i> CCR units must comply with groundwater monitoring requirements before CCRs could be disposed of in the units.</p>	<p>For all structures that receive CCRs after the date of enactment, revised criteria for groundwater monitoring and corrective action described in Subpart E of 40 C.F.R. Part 258, except as provided below.</p>
<p>§258.51 Groundwater monitoring systems.</p>	<p>§257.91 Groundwater monitoring systems.</p>	
<p>§258.53 Groundwater sampling and analysis requirements.</p>	<p>§257.93 Groundwater sampling and analysis requirements.</p>	
<p>§258.54 Detection monitoring program—specific constituents required to be included in the detection monitoring and assessment monitoring programs are listed under Appendix I to Part 258—Constituents for Detection Monitoring and Appendix II to Part 258—List of Hazardous Inorganic and Organic Constituents.</p>	<p>§257.94 Detection monitoring program—constituents for detection monitoring are boron, chloride, conductivity, fluoride, pH, sulphate, sulfide, total dissolved solids.</p>	<p>For all structures that receive CCRs after the date of enactment, for the purposes of detection monitoring, the constituents boron, chloride, conductivity, fluoride, mercury, pH, sulfate, sulfide, and total dissolved solids.</p>
<p>§258.55 Assessment monitoring program—within 90 days of finding that any of the constituents listed in Appendix II have been detected at a statistically significant level exceeding the groundwater protection standards, the owner or operator must initiate an assessment of corrective measures that must be completed within “a reasonable period of time.”</p>	<p>§257.95 Assessment monitoring program—would be required whenever a statistically significant increase over background was detected for aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chloride, chromium (total), copper, fluoride, iron, lead, manganese, mercury, molybdenum, pH, selenium, sulphate, sulfide, thallium, total dissolved solids. In such cases, additional sampling and analysis requirements would also apply. Owners/operators would be required to complete their assessment corrective measures within 90 days of detecting the increase.</p>	<p>For all structures that receive CCRs after the date of enactment, for the purposes of assessment monitoring, aluminum, boron, chloride, fluoride, iron, manganese, molybdenum, pH, sulfate, and total dissolved solids.</p>
<p>§258.56 Assessment of corrective measures.</p>	<p>§257.96 Assessment of corrective measures.</p>	
<p>§258.57 Selection of remedy.</p>	<p>§257.97 Selection of remedy.</p>	
<p>§258.58 Implementation of the corrective action program.</p>	<p>§257.98 Implementation of the corrective action program.</p>	



Municipal Solid Waste Landfill Criteria (in 40 C.F.R. Part 258)	EPA's Proposed Standards for CCR Landfills and Surface Impoundments (in 40 C.F.R. Part 257)	Proposed Section 401 I "Permit Program Specifications" for a CCR Permit Program (Minimum Requirements and Revised Criteria)
<b>Subpart F—Closure and Post-Closure Care</b> Requirements applicable to the closure of regulated disposal units.		
<p>§258.60 Closure criteria.</p> <p>§258.61 Post-closure care requirements.</p> <p>§258.62 Approval of site-specific flexibility requests in Indian country.</p>	<p>§257.100 Closure criteria—requires the removal of liquid and stabilization of remaining waste from a surface impoundment before closure.</p> <p>§257.101 Post-closure care requirements.</p> <p>* No similar requirement.</p>	<p>Included broadly are the revised criteria for closure and post-closure.</p> <p>Under proposed Section 401 I (h), "Closure" provisions specify that, if it is determined pursuant to a CCR program that a structure should close, the time period and method for the closure must be set forth in a closure plan that establishes a deadline for completion and takes into account the nature and the site-specific characteristics of the structure. For surface impoundments, the closure plan shall require, at a minimum, the removal of liquid and the stabilization of remaining waste, as necessary to support the final cover.</p>
<b>Subpart G—Financial Assurance</b> Guarantees required to be established to assure that the owner/operator can pay for potential cleanup of contamination.		
<p>§258.70 Applicability and effective date.</p> <p>§258.71 Financial assurance for closure.</p> <p>§258.72 Financial assurance for post-closure care.</p> <p>§258.73 Financial assurance for corrective action.</p> <p>§258.74 Allowable mechanisms.</p> <p>§258.75 Discounting.</p>	<p>* EPA did not include financial assurance requirements in its proposal. It noted that any such requirements would be proposed in a separate rulemaking.</p>	<p>For all structures that receive CCRs after the date of enactment, the revised criteria for financial assurance described in Subpart G of 40 C.F.R. Part 258 would apply to the permit program.</p>

**Source:** Congressional Research Service, based on a comparison of "Criteria for Municipal Solid Waste Landfills" in 40 C.F.R. Part 258; EPA's "Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments," proposed by EPA in 75 *Federal Register* 35239-35253; and "Permit Program Specifications" and "Closure" provisions in proposed Section 401 I, subsections (c) and (h), respectively.

## **Appendix B. An “Adequate” MSW Permit Program Compared to the Proposed CCR Permit Program**

Given the discretion allowed to states to apply the proposed Section 4011 Permit Program Specifications directly to CCR structures, it is unclear whether or to what degree a state’s CCR permit program would be comparable to an approved MSW permit program (as defined under current law). If a state did choose to apply those criteria to owners and operators of CCR structures, implementation of a CCR permit program would still likely be significantly different compared to an MSW permit program. State adoption and implementation of a CCR permit program would also likely differ from an MSW permit program as a result of the significantly different roles and responsibilities allowed for EPA.

Key differences between the existing MSW and proposed CCR permit programs can be seen by comparing “Requirements for State Permit Program Determination of Adequacy” to provisions applicable to a CCR permit program in the proposed Section 4011 amendment to RCRA. **Table B-1** lists selected, relevant requirements in 40 C.F.R. Part 239 and comparable elements of the proposed CCR permit program. Broadly, few requirements included under Part 239 are included in the proposed Section 4011. As a result, the identification of comparable provisions that are *not* included among the requirements applicable to the permit program proposed in statute would likely not apply to a state’s program or may be applied at its discretion.

**Table B-I. Comparison of the MSW and CCR Permit Programs**

<b>Selected Requirements for State Permit Program Determination of Adequacy</b> (40 C.F.R. Part 239)	<b>Comparable Elements of a CCR Permit Program in Proposed Section 401 I of RCRA</b>
<p><b>Overview.</b> Under §4005 of RCRA, within 18 months of EPA promulgating the MSW landfill criteria (40 C.F.R. Part 258), each state was required to adopt and implement a permit program to assure that each MSW landfill in the state would comply with those criteria. EPA was required to determine the adequacy of each state permit program, as detailed in the requirements in 40 C.F.R. Part 239. If it determined that a state's permit program was inadequate, EPA was authorized to enforce the MSW landfill criteria at regulated facilities in that state.</p>	<p><b>Overview.</b> Under the proposed Section 401 I, states may choose to adopt a CCR permit program for the management and disposal of CCR. EPA would be required to implement the program in states that decline to do so. EPA has estimated that, if enacted, all the states with coal-fired power plants would implement their own CCR permit programs.</p>
<p><b>Selected Definitions.</b> A <i>permit or prior approval and conditions</i>—any authorization, license, or equivalent control document issued under the authority of the state regulating the location, design, operation, groundwater monitoring, closure, post-closure care, corrective action, and financial assurance of Subtitle D regulated facilities.</p>	<p><b>Proposed subsection (k)—Definitions.</b> A <i>coal combustion residuals permit program</i> would be defined as a permit program or other system of prior approval and conditions that is adopted by or for a state for the management and disposal of coal combustion residuals to the extent such activities occur in structures in such state.</p>
<p>An <i>approved permit program</i>—a state Subtitle D permit program or other system of prior approval and conditions required under Section 4005 of RCRA that has been determined to be adequate by EPA under Part 239.</p>	
<p>A <i>state program or permit program</i>—all the authorities, activities, and procedures that comprise the state's system of prior approval and conditions for regulating the location, design, operation, groundwater monitoring, closure, post-closure care, corrective action, and financial assurance of Subtitle D regulated facilities.</p>	

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**Selected Requirements for State Permit  
Program Determination of Adequacy**  
(40 C.F.R. Part 239)

**Comparable Elements of a CCR Permit  
Program in Proposed Section 4011 of RCRA**

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**State Program Application Requirements.**

Specifies information that must be provided by states seeking EPA approval of their Subtitle D permit programs.

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**§239.3 Components of program application.** The application must demonstrate that state authorities and procedures are adequate to ensure compliance with the relevant criteria in 40 C.F.R. Part 258 and that the permit program is uniformly applicable to all the relevant MSW landfill units.

The application must contain the following parts: a transmittal letter requesting program approval, a narrative description of the program (as detailed at §239.4), a legal certification, and copies of all applicable state statutes, regulations, and guidance (as detailed at §239.5).

**§239.4 Narrative description of state permit program.** The state must describe state agency jurisdiction and responsibilities in implementing the program; how it will meet the necessary permit program requirements; how it will ensure that existing and new facilities are permitted or otherwise approved and in compliance with the relevant Subtitle D federal revised criteria; and the number of facilities within the state's jurisdiction that received waste after EPA promulgated the MSW landfill criteria.

**§239.5 State legal certification.** The state attorney general must certify that laws, regulations, and guidance cited in the application are enacted at the time of certification.

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**Proposed subsection (b)(2)—State Actions: Certification.** In states that notify EPA of its intent to adopt a CCR permit program, within 36 months of enactment of Section 4011, the head of the lead state agency responsible for implementing the program would be required to submit to EPA a certification that its program meets the CCR Permit Program Specifications. Similar to the required components of a state program application in §239.3, the certification would be required to include: a letter identifying the lead state agency responsible for implementing the CCR permit program, and any other state agencies involved in the program; a narrative description of the program (described below) and a legal certification that the state has, at the time of program certification, fully effective statutes or regulations necessary to implement a permit program that meets the specifications.

The certification requirements are included among the permit program elements that EPA may identify to a state as having a deficiency.

In contrast to Part 239, a state would not be required to demonstrate that it applies the permit program uniformly to all CCR structures in the state.

**Proposed subsection (b)(2)(B)(iii)—Certification: Contents.** The certification provided to EPA would be required to include a narrative description explaining how the state would ensure that its permit program meets the requirements of proposed Section 4011, including a description of its: process to inspect or otherwise determine compliance with the permit program; process to enforce permit program requirements; and public participation process for promulgating, amending, or repealing its regulations for, and the issuance of permits under, the permit program.

Detailed requirements applicable to the narrative description, similar to those in §239.4, are not specified in the proposed Section 4011.

**Proposed subsection (b)(2)(B)(iii)—Certification: Contents.** The certification provided to EPA must include a legal certification that the state has fully effective statutes and regulations necessary to implement a CCR permit program that meets Minimum Requirements described in the Permit Program Specifications (proposed Section 4011(c)(1)), including copies of state statutes and regulations.

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**Selected Requirements for State Permit  
Program Determination of Adequacy**  
(40 C.F.R. Part 239)

**Comparable Elements of a CCR Permit  
Program in Proposed Section 4011 of RCRA**

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**State Requirements Necessary to Demonstrate  
the Adequacy of its Proposed Permit Programs.**

Specifies state roles and requirements, including necessary law or procedures, that a state seeking program approval must have in place before it will be deemed adequate by EPA.

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**§239.6(a)-(c) Permitting requirements: public involvement requirements.** State law must require that documents for permit determinations are made available for public review and comment; and final determinations on permit applications are made known to the public. The state must also have procedures that ensure consideration of public comments on permit determinations and fully describe its public participation procedures for permit issuance and post-permit actions in its narrative description.

The narrative description of a state's proposed permit program (under proposed Section 4011(b)(2)(B)(iii)) must include a description of its public participation process for promulgating, amending, or repealing its regulations for, and the issuance of permits under, the permit program.

**§239.6(d) Permitting requirements: authority to collect information.** States must have the authority to collect all information necessary to issue permits that are adequate to ensure compliance with the relevant 40 C.F.R. Part 258 criteria.

The proposed amendment to RCRA includes no directives or requirements similar to those in §239.6(d).

**§239.6(e) Permitting requirements: required state law.** The state shall have the authority to impose requirements for MSW landfill units adequate to ensure compliance with 40 C.F.R. Part 258. These requirements shall include standards necessary to ensure compliance with each regulatory subpart under Part 258 (e.g., requirements necessary to achieve compliance with location restrictions, operating criteria, groundwater monitoring and corrective for MSW landfill units). With regard to these standards, state law must also require that, prior to construction and operation, all new MSW landfill units will have a permit incorporating those requirements. Existing MSW landfills units were required to have a permit incorporating the regulatory standards in accordance with the deadlines identified in Section 258.1 (ranging from 1991 to 1997).

The proposed amendment to RCRA includes no directives or requirements similar to those in §239.6(e). In order to adopt or implement a CCR permit program, a state would be required to maintain a program approved pursuant to Part. 239. As a result, a state with an approved permit program would have enacted laws or implemented procedures pursuant to §239.6(e). However, it is unclear whether or the degree to which state laws and authorities required to ensure facility compliance with the MSW landfill regulations would be comparable to those for a permit program intended for the management and disposal of coal combustion residuals in CCR structures.

Absent a directive to states to apply the Revised Criteria to a new CCR structure, prior to operation, or to existing structures, by a certain deadline, it would appear that it would be left to the state to determine when it would require existing facilities to obtain a permit and/or operate in accordance with its conditions.

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**Selected Requirements for State Permit Program Determination of Adequacy**  
(40 C.F.R. Part 239)

**Comparable Elements of a CCR Permit Program in Proposed Section 4011 of RCRA**

**§239.7 Requirements for compliance monitoring authority.** The state must have authorities to determine owner or operator compliance with the applicable landfill requirements, including the authority to: obtain necessary information; to conduct monitoring or testing; to enter any sites subject to the permit program; and to provide for inspections adequate to determine compliance with the state permit program.

A state must also demonstrate that its compliance monitoring program provides for adequate inspections to determine compliance with the approved state permit program and that its compliance monitoring program provides mechanisms to ensure the accuracy of information provided by MSW landfill owner/operators.

**§239.8 Requirements for enforcement authority.** Any state seeking approval must have the authority to impose the following remedies for violation of state program requirements: to immediately and effectively restrain any person by administrative or court order or by suit in a court of competent jurisdiction from engaging in any activity which may endanger or cause damage to human health or the environment; to sue in a court of competent jurisdiction to enjoin any threatened or continuing activity which violates any statute, regulation, order, or permit which is part of or issued pursuant to the state program; to sue in a court of competent jurisdiction to recover civil penalties for violations of a statute or regulation which is part of the state program or of an order or permit which is issued pursuant to the state program.

**§239.9 Intervention in civil enforcement proceedings.** Any state seeking approval must provide for intervention in the state civil enforcement process by providing either: authority that allows intervention in any civil action to obtain remedies specified in §239.8 by any citizen having an interest that is or may be adversely affected; or, assurance by the appropriate state agency that it will: provide notice and opportunity for public involvement in all proposed settlements of civil enforcement actions, except under specific conditions; investigate and provide responses to citizen complaints about violations; and not oppose citizen intervention as allowed by statute, rule, or regulation.

The proposed Permit Program Specifications include a provision that, for a state implementing the CCR permit program, that state has the authority to “inspect structures and implement and enforce such permit program.” This provision appears to reinforce existing state authority. Currently, states are authorized to inspect and monitor facilities for compliance with waste management requirements it chooses to adopt and implement under Subtitle D. In contrast, the requirements detailed in §239.7 are those EPA identified as necessary for a state to demonstrate that its compliance monitoring authority is adequate to assure facility compliance with the MSW landfill criteria. No requirements similar to those included in §239.7 are included in the proposed amendment to RCRA.

The required narrative description of a state’s proposed permit program (under proposed Section 4011(b)(2)(B)(iii)) must include a description of its process to enforce *permit program requirements*, but includes no requirements that a state demonstrate that it has authority to enforce facility violations of CCR permit program requirements similar to those detailed in §239.8.

No requirements similar to those included in §239.9 are included in the proposed amendment to RCRA.

<p><b>Selected Requirements for State Permit Program Determination of Adequacy</b> (40 C.F.R. Part 239)</p>	<p><b>Comparable Elements of a CCR Permit Program in Proposed Section 4011 of RCRA</b></p>
<p><b>EPA Procedures for Making its Adequacy Determination.</b> Specifies procedure and deadlines that EPA will adhere to in determining the adequacy of a state MSW permit program.</p>	
<p><b>§239.10 Criteria and procedures for making adequacy determinations.</b> Specifies the following deadlines and required actions applicable to EPA in making its adequacy determination:</p> <ul style="list-style-type: none"> <li>• Within 30 days of receipt, review an application and notify the state whether it is administratively complete.</li> <li>• After review of a complete application, publish its tentative determination of adequacy/inadequacy for 30-day public comment in the <i>Federal Register</i>, if tentatively considered inadequate, include specific concerns.</li> <li>• Within 180 days of determining its completeness, and after considering public comments, publish its adequacy determination, including its response to public comments as necessary.</li> <li>• For states that do not submit an application, EPA may issue a final determination of inadequacy in the <i>Federal Register</i>.</li> </ul>	<p>There are no provisions in the proposed amendment to RCRA comparable to those in §239.10 directing EPA to approve a CCR permit program or deem it adequate to ensure enforcement of Permit Program Specification (as a state may choose to apply them to the owner or operators of CCR structures). Instead, under proposed Section 4011(d), EPA would be required to provide written notice and an opportunity to remedy deficiencies, if at any time the state:</p> <ul style="list-style-type: none"> <li>• does not satisfy requirements regarding its obligation to notify EPA of its intent to implement a program or its certification to EPA regarding its permit program;</li> <li>• does not maintain an approved MSW landfill permit program or an authorized hazardous waste management program; and</li> <li>• is not implementing a CCR permit program that meets the permit program specification minimum requirements (including a state's decision to not apply certain revised criteria to its permit program).</li> </ul> <p>In collaboration with the state, EPA would be required to identify a "reasonable deadline," not sooner than 6 months after EPA's notice, for the state to remedy deficiencies. EPA would be required to implement the CCR permit program in a state that fails to remedy the deficiencies by the agreed-upon deadline and after any judicial review brought by the state under section 7006 of RCRA is resolved.</p>
<p><b>§239.11 Approval procedures for partial approval.</b> EPA may partially approve state permit programs that does not meet all of the requirements in §239.6(e)(3) (i.e., it does not incorporate all of the relevant Subtitle D federal revised criteria). Under this paragraph, EPA specifies the conditions under which a permit program may receive partial approval.</p>	<p>No requirements similar to those included in §239.11 are included in the proposed amendment to RCRA</p>
<p><b>§239.12 Modifications of state programs.</b> EPA specifies conditions under which an approved state permit program may/must be modified, such as in response to changes in federal or state statutory or regulatory authority that have significant implications for state permit programs. States that must modify their permit programs must notify the regional EPA Administrator of those modifications within a time-frame agreed upon by the state and EPA. EPA will review and determine whether any revisions are necessary.</p>	<p>No requirements similar to those included in §239.12 are included in the proposed amendment to RCRA</p>

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**Selected Requirements for State Permit Program Determination of Adequacy**  
(40 C.F.R. Part 239)

**Comparable Elements of a CCR Permit Program in Proposed Section 4011 of RCRA**

**§239.13 Criteria and procedures for withdrawal of determination of adequacy.** Specifies conditions under which a regional EPA Administrator may initiate withdrawal of a determination of adequacy, including when that Administrator has reason to believe that the state no longer has: an adequate permit program or adequate authority to administer and enforce an approved program in accordance with Part 239. These requirements detail both EPA's and state agency roles in making necessary efforts to address issues of program inadequacy, including: EPA's requirement to provide the state with a written notification of its issues of concern and necessary requirements to remedy them; state responsibilities to respond and negotiate a time-frame to address the issues identified by EPA; and EPA responsibilities to notify the public and seek comments.

If the regional EPA administrator finds that the state program is not in compliance with this Part 239 by the date prescribed, a final notice of inadequacy shall be published in the *Federal Register* declaring the state permit program inadequate to ensure compliance with the relevant Subtitle D federal revised criteria. That document will include a statement of the reasons for this determination and response to significant comments received. States may seek a determination of adequacy at any time after that determination of inadequacy.

No requirements similar to those included in §239.13 are included in the proposed amendment to RCRA. However, if at any time a state is not implementing a CCR permit program that meets the Permit Program Specification "Minimum Requirements," EPA would be obligated to provide a state with written notice and an opportunity to remedy such deficiencies. Apart from potential deficiencies in state implementation of those requirements and absent a request from the state to do so, EPA would have no role in program implementation after a state certified that it had a program in place.

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**Source:** CRS, based on a comparison of the Requirements for State Permit Program Determination of Adequacy, in 40 C.F.R. Part 239, and selected provisions in the legislative proposals that would establish a CCR permit program, particularly provisions specifying State Actions, Permit Program Specifications, and Written Notice and Opportunity to Remedy (in proposed §4011 (b), (c), and (d), respectively).

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