



ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-RCRA-2012-0028; FRL-9843-1]

RIN 2050-AE81

Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of data availability (NODA) and request for comment.

SUMMARY: The U.S. Environmental Protection Agency (EPA or the Agency) invites comment on additional information obtained in conjunction with the proposed rule:

Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities that was published in the *Federal Register* on June 21, 2010. This information is categorized as: additional data to supplement the Regulatory Impact Analysis and risk assessment, information on large scale fill, and data on the surface impoundment structural integrity assessments. EPA is also seeking comment on two issues associated with the requirements for coal combustion residual management units. The Agency is not reopening any other aspect of the proposal or underlying support documents, and will consider comments on any issues other than those raised in the NODA to be late comments and not part of the rulemaking record.

DATES: Submit comments on or before **[insert date 30 days after publication in the FEDERAL REGISTER]**.

ADDRESSES: Submit your comments, identified by Docket ID No. **EPA-HQ-RCRA-2012-0028**, by one of the following methods:

- 1) www.regulations.gov: Follow the online instructions for submitting comments.
- 2) *Email*: Comments may be sent by electronic mail (e-mail) to **rcra-docket@epa.gov**, Attention Docket ID No. **EPA-HQ-RCRA-2012-0028**. In contrast to EPA's electronic public docket, EPA's e-mail system is not an "anonymous access" system. If you send an e-mail comment directly to the Docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket, and made available in EPA's electronic public docket.
- 3) *Fax*: Comments may be faxed to 202-566-9744. Attention Docket ID No. **EPA-HQ-RCRA-2012-0028**.
- 4) *Mail*: Send two copies of your comments to **Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities: Notice of Data Availability and Request for Comment**, Environmental Protection Agency, Mailcode: 28221T, 1200 Pennsylvania Ave., NW, Washington, DC 20460. Attention Docket ID No. **EPA-HQ-RCRA-2012-0028**.
- 5) *Hand Delivery*: Deliver two copies of your comments to the **Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities: Notice of Data Availability and Request for Comment** Docket, EPA/DC, EPA West, Room 3334,

1301 Constitution Ave., NW, Washington, DC 20460. Attention Docket ID No. **EPA-HQ-RCRA-2012-0028**. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. **EPA-HQ-RCRA-2012-0028**.

EPA's policy is that all comments received will be included in the public docket without change and may be made available on-line at *www.regulations.gov*, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI), or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *www.regulations.gov* or e-mail. The *www.regulations.gov* website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm*. For additional instructions on

submitting comments, go to the **SUPPLEMENTARY INFORMATION** section of this notice.

Docket: All documents in the docket are listed in the *www.regulations.gov* index.

Although listed in the index, some information is not publicly available, *e.g.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *www.regulations.gov* or in hard copy at the **Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities: Notice of Data Availability and Request for Comment** Docket, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. This Docket Facility is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The Docket telephone number is (202) 566-0270. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744.

FOR FURTHER INFORMATION CONTACT: Steve Souders, Office of Resource Conservation and Recovery (5304P), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460-0002, telephone (703) 308-8431, e-mail address souders.steve@epa.gov. For more information on this rulemaking, please visit: www.epa.gov/epawaste/nonhaz/industrial/special/fossil/ccr-rule/index.htm.

SUPPLEMENTARY INFORMATION:

I. How Should I Submit CBI to the Agency?

Do not submit information that you consider to be CBI electronically through www.regulations.gov or by e-mail. Send or deliver information identified as CBI only to the following address: RCRA CBI Document Control Officer, Office of Resource Conservation and Recovery (5305P), U.S. EPA, 1200 Pennsylvania Avenue, NW, Washington, DC 20460, Attention Docket ID No. **EPA-HQ-RCRA-2012-0028**. You may claim information that you submit to EPA as CBI by marking any part or all of that information as CBI (if you submit CBI on disk or CD ROM, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is CBI). Information so marked will not be disclosed, except in accordance with the procedures set forth in 40 CFR part 2.

In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket and EPA's electronic public docket. If you submit the copy that does not contain CBI on disk or CD ROM, mark the outside of the disk or CD ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please contact: LaShan Haynes, Office of Resource Conservation and Recovery (5305P), U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460-0002, telephone (703) 605-0516, e-mail address haynes.lashan@epa.gov.

II. What is the Purpose of this NODA?

With this NODA, EPA is reopening the comment period on the proposed rule:

Hazardous and Solid Waste Management System: Identification and Listing of Special Wastes; Disposal of Coal Combustion Residuals From Electric Utilities (75

FR 35127, June 21, 2010), herein referred to as the “proposed rule” for two limited purposes. The first is to obtain public comment on additional information that may be relevant to the development of a final Coal Combustion Residuals (CCR) rule under the Resource Conservation and Recovery Act (RCRA), herein referred to as the “final rule.”¹ This includes new information and data we have received that could be used in potential updates and enhancements to the Regulatory Impact Analysis (RIA) or risk assessment for the final rule.² EPA is still in the process of evaluating this information and we cannot definitively state we have determined that it is appropriate to rely on this information in developing the final rule. In addition, it should not be assumed that the specific information identified in this NODA is the full sum of the information that will be considered or that will influence the Agency’s decisions in this rulemaking. However, EPA is reopening the comment period only for the limited purpose of allowing the public to comment on the validity and propriety of using these data and potential analyses in developing the final rule; this action will provide the public with a full and complete opportunity to comment on the information that EPA has identified to date as having the potential to weigh significantly in our decisions. If EPA determines that it is appropriate

¹ EPA issued a NODA on October 12, 2011 (76 *FR* 63252) that announced and invited comment on other additional information that may be relevant to the development of a final rule that was obtained by EPA after the close of the public comment period on the proposed rule.

² The cited risk assessment, “Draft: Human and Ecological Risk Assessment of Coal Combustion Wastes,” April 2010 (EPA-HQ-RCRA-2009-0640-0002), and RIA, “Regulatory Impact Analysis for EPA’s Proposed RCRA Regulation Of Coal Combustion Residues (CCR) Generated by the Electric Utility Industry,” April 2010 (EPA-HQ-RCRA-2009-0640-0003) are available in the docket for the 2010 proposed rule.

to rely on any of the information provided in today's notice to support decisions and/or provisions in the final rulemaking, EPA will take the necessary steps to ensure the data is of sufficient quality before relying on it in deliberations on the final rule.³ EPA will use its *Information Quality Guidelines*, as appropriate, to evaluate any information used to support a final regulatory decision.⁴ In addition, EPA will also rely on the EPA Science Policy Council *Assessment Factors Guidance* to evaluate the quality and relevance of the scientific and technical information.⁵

The second purpose of this NODA is to solicit additional comment on two aspects of the proposed rule. The proposed technical requirements generated a significant number of technical comments and have presented some very complex issues. Based on the issues raised in public comments, EPA has identified two areas that warrant additional public comment; EPA is seeking additional comments on (1) the feasibility of complying with the Agency's proposed time frames for closing surface impoundments in the subtitle D option; and (2) how the technical requirements (including the design and operating requirements for new CCR landfills) relate to CCR overfill units that have been constructed on top of closed surface impoundments or landfills, which commenters have claimed is a common (and expanding) practice.

³ The Agency's "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency" contains EPA's policy and procedural guidance for ensuring and maximizing the quality of information that the Agency disseminates. They were developed in response to guidelines issued by the Office of Management and Budget (OMB) under Section 515(a) of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554; H.R. 5658). The EPA Information Quality Guidelines are available at: http://www.epa.gov/QUALITY/informationguidelines/documents/EPA_InfoQualityGuidelines.pdf.

⁴ Specific evaluation criteria are outlined in the Agency's document titled, "Data Quality Assessment: A Reviewer's Guide" (EPA/240/B-06/002, February 2006) provided at <http://www.epa.gov/quality/qs-docs/g9r-final.pdf>.

⁵ Available at: <http://www.epa.gov/stpc/pdfs/assess2.pdf>.

EPA is not reopening the comment period on any other issue associated with its original proposal. This is not an opportunity for the public to supplement their comments on the proposed rule, or to raise issues that could have been raised during the original comment period. The only issues on which the Agency is soliciting comment relate to the information in the docket supporting this NODA, **EPA-HQ-RCRA-2012-0028**, or the websites listed below, the potential revisions to the risk assessment and RIA based on this information, or the other two issues specifically described in this NODA. Comments submitted on any issues other than those specifically identified in this NODA will be considered “late comments” on the proposed rule. EPA will not respond to such comments, and they will not be considered part of the rulemaking record.

III. Where Can the Additional Information Identified in this NODA Be Found?

All the information EPA is noticing today in this NODA can be found in the docket, **EPA-HQ-RCRA-2012-0028** or is available from websites at internet addresses provided in this notice. There are three data sets for which hardcopy versions of the material cited is not included in the docket and we are instead providing internet addresses. These are: (1) the Structural Integrity Surface Impoundment Assessments at: <http://www.epa.gov/wastes/nonhaz/industrial.special/fossil/surveys2/indexhtm>; (2) the Questionnaire for the Steam Electric Power Generating Effluent Guidelines at: <http://water.epa.gov/scitech/wastetech/guide/steam-electric/questionnaire.cfm>; and (3) the National Hydrography Dataset Plus (NHDPlus) at: <http://www.horizon-systems.com/nhdplus/>.

IV. What Data to Supplement the RIA and Risk Assessment Are Being Noticed?

On June 7, 2013, EPA published a proposed rule revising technology-based effluent limitation guidelines and standards for the steam electric power generating point source category (ELG rule) (78 *FR* 34432). A principle source of information used in developing this proposal was the industry responses to a survey titled, The Questionnaire for the Steam Electric Power Generating Effluent Guidelines, distributed by EPA under the authority of section 308 of the Clean Water Act, 33 U.S.C. 1318.⁶ EPA designed the industry survey to obtain technical information related to wastewater generation and treatment, and economic information such as costs of wastewater treatment technologies and financial characteristics of potentially affected companies. In June 2010, EPA mailed the survey to 733 plants. In general, plants were required to provide responses for the 2009 calendar year. (The reader is referred to the preamble discussion in the proposed ELG rule for additional information on the questionnaire and the data collected (78 *FR* at 34442-34445.)) The Agency is considering whether to rely on all of the responding data in developing a revised RIA, risk assessment or other analyses. A Microsoft Access version of the data, a PDF of the original questions and mailing list, and an EXCEL version of the data element dictionary are all available at:

<http://water.epa.gov/scitech/wastetech/guide/steam-electric/questionnaire.cfm>; this is the same information on which EPA solicited public comment in the proposed ELG rule. EPA also notes that the Agency will work to harmonize the use of these data, to the extent possible, in the development of this final rule.

V. What Additional Data for the Risk Assessment Are Being Noticed?

⁶ U.S. EPA. *Environmental Protection Agency: 2010 Questionnaire for the Steam Electric Power Generating Effluent Guidelines*. OMB Control No. 2040-0281. Approved May 20, 2010.

EPA is soliciting comment on whether to consider the following additional information sources in developing a revised risk assessment in support of the final rule. The risk assessment prepared in support of the proposed rule titled, “Draft: Human and Ecological Risk Assessment of Coal Combustion Wastes,” April 2010 (“2010 Risk Assessment”) is available in the docket to the proposed rule (EPA-HQ-RCRA-2009-0640-0002). Although EPA is singling out the information and data specifically listed below and in the docket for further public comment, it should not be assumed that this information/data is the full sum of the information/data that will be considered or that will influence the Agency’s decisions in this rulemaking.

1. EPA is considering updating the surface water flow rates. The average annual flow rates provided in the National Hydrography Dataset Plus (NHDPlus) may be used to supplement or replace the Reach File Version 1.0 (RF1) low flow (7Q10) data previously used to model surface water flow rates. These data can be found at:
<http://www.horizon-systems.com/nhdplus/>.
2. Data from a report by the U.S. Census Bureau for the U.S. Fish and Wildlife Service titled, “2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.” This report characterizes the percentage of residents in urban and rural areas of each state who are fresh water fishers. EPA is considering applying the U.S. Fish and Wildlife Service statistics for urban and rural areas from each state to current census population counts to estimate the total number of residents near each coal plant who are anglers.⁷ This document is available at:

⁷ The U.S. Census Bureau has defined urban and rural. EPA notes that according to this definition, “urban fringe generally consists of contiguous territory having a density of at least 1,000 persons per square mile.” Thus, a population of 3,142 persons within a 1-mile radius means a population density of 1,000 per square mile.

http://wsfrprograms.fws.gov/Subpages/NationalSurvey/nat_survey2006_final.pdf, as well as in the docket supporting this NODA.

3. The EPA is considering using a mathematical procedure to model the interception of groundwater plumes by surface water bodies that may exist between a waste management unit and a down-gradient drinking water well. EPA is requesting comment on the validity of this procedure. Theoretical details of the procedure are provided in the document titled, “Plume Interception by a Stream and Contaminant Concentrations at Receptor Wells Located Downgradient from the Stream” that can be found in the docket supporting this NODA.
4. On October 12, 2011, EPA issued a NODA (76 FR 26086) seeking comments, among other things, on the CCR leaching data (Leaching Environmental Assessment Framework, or LEAF data) developed by EPA’s Office of Research and Development and Vanderbilt University). Based on the comments received and additional review, the EPA is considering updating the LEAF data; new pre-processing algorithms were developed to make the best use of the LEAF data by EPA’s Composite Model with Transformation Products (EPACMTP). EPA is providing further documentation related to the changes in the document titled, “Algorithms to Pre-Process Leaching Data to Generate Source Terms for Modeling Landfill Leachate Migration in Ground Water” that can be found in the docket supporting this NODA.
5. EPA obtained additional fish bio-concentration factors (BCFs) and other chemical-specific data from literature for hazardous constituents. The chemical-specific data to be used as inputs for modeling are available in a file titled, “Chemical Specific Data”

that can be found in the docket supporting this NODA. EPA is only requesting comment on whether the revised BCFs should be considered in the final risk assessment in support of the final rule.

6. EPA created a list linking the location of each coal plant with the closest receiving water body for evaluating surface water risks as well as human health risks. Each plant is identified by the corresponding Energy Information Administration (EIA) ID and each receiving water body is identified by the corresponding Common ID (COMID). These data are provided in the EXCEL spreadsheet titled, “List of Coal Plant and Closest Receiving Water” that can be found in the docket supporting this NODA. We are soliciting comment regarding corrections or amendments to these data.

VI. What Information on Large Scale Fill Is Being Noticed?

In the proposed rule, the Agency proposed to define the placement of CCRs in sand and gravel pits, quarries, and other large scale fill operations as land disposal, rather than beneficial use. *75 FR 35163*. The preamble to the proposal discussed situations where large quantities of CCRs had been used as encapsulated general fill and the Agency stated that it considered that practice to be waste management. The preamble further stated that, “The amount of material placed can significantly impact whether placement of unencapsulated CCRs cause environmental risks. There are great differences between the amount of material disposed of in a landfill and in a beneficial use setting. For example, a stabilized fly ash base course for roadway construction may be on the order of 6 to 12 inches thick under the road where it is used – these features differ considerably from the landfill and sand and gravel pit situations where hundreds of thousands to millions of tons

of CCRs are disposed of and for which damage cases are documented.” Id at 35164.

However, EPA did not propose a definition of the activities that would constitute large scale fill, nor propose a size criterion, but “solicit[ed] comments on appropriate criteria to distinguish between legitimate beneficial uses and inappropriate operations.” Id at 35163.

In response, many commenters stated that EPA should have developed a size criterion to define large scale fill operations. The State of North Carolina suggested 5,000 cubic yards as a size criterion, but did not provide a basis for this. Other commenters did not suggest a specific definition or offer specific size limitations. In developing the CCR final rule and in defining large scale fill operations, EPA is considering whether to adopt an approach that relies on developing criteria or whether to develop a definition, either through guidance or an interpretive rule in the preamble, or through regulatory text that identifies the types of activities or factors the Agency will consider .

In the proposed rule, the Agency recognized that the amount of waste alone did not result in situations that replicated landfills. For example: “The amount of material placed can significantly impact whether placement of unencapsulated CCRs causes environmental risks. There are great differences between the amount of material disposed of in a landfill and in beneficial use settings. For example, a stabilized fly ash base course for roadway construction may be on the order of 6 to 12 inches thick under the road where it is used - these features differ considerably from the landfill and sand and gravel pit situations where hundreds of thousands to millions of tons of CCRs are disposed of and for which damage cases are documented.” Id at 35164. Thus, EPA may exclude

roadway construction from the definition of “CCR Landfill” or set a minimum depth reflective of CCR landfills and the damage cases associated with fill operations.

Whatever approach is chosen, EPA is aware of three different types of data sets that could provide information relevant to developing appropriate criteria or to otherwise defining what constitutes large scale fill. EPA is soliciting comment on the adequacy of these data, and whether EPA should consider them for the purpose of creating criteria or a definition. Specifically:

- The first data set involves the size of the structural fills that have resulted in damage cases.⁸ Size information on all seven sites was not in the docket to the proposed rule, but has been added to the docket for this NODA (See the document titled, “Structural Fills That Have Resulted in Damage Cases”).
- The second possible source of information that could be used is the distribution of landfill sizes, derived either from EPA’s Office of Water’s questionnaire –which, as mentioned earlier, is part of the docket

⁸ The Agency provided definitions for proven damage cases and potential damage cases in the 2010 proposal (see 75 *FR* at 35131.) As stated in the proposal, damage cases can be either a *potential damage case* or a *proven damage case*.

Potential damage case means those cases with documented MCL exceedances that were measured in ground water beneath or close to the waste source. In these cases, while the association with CCRs has been established, the documented exceedances had not been demonstrated at a sufficient distance from the waste management unit to indicate that waste constituents had migrated to the extent that they could cause human health concerns.

Proven damage case means those cases with (i) documented exceedances of primary maximum contaminant levels (MCLs) or other health-based standards measured in ground water at sufficient distance from the waste management unit to indicate that hazardous constituents have migrated to the extent that they could cause human health concerns, and/or (ii) where a scientific study provides documented evidence of another type of damage to human health or the environment (*e.g.*, ecological damage), and/or (iii) where there has been an administrative ruling or court decision with an explicit finding of specific damage to human health or the environment. In cases of co-management of CCRs with other industrial waste types, CCRs must be clearly implicated in the reported damage.

supporting this NODA--or from the landfill size distribution used in the proposed rule. The landfill size data set may provide relevant information that could be used to develop size criteria for distinguishing between large scale fill operations and sham disposal, as discussed in the proposed rule.

See *75 FR* at 35155

- The third potential data set is the document titled, “North Carolina Documented Cases of Structural Fills Using Coal Ash as of January 2010”. This data set does not discuss damage cases but presents a size distribution for large scale fills that have been constructed in North Carolina.

These data have been placed in the docket supporting this NODA.

VII. What Data on Surface Impoundment Structural Integrity Assessments Are Being Noticed?

On October 13, 2010, EPA described and solicited comment (See *76 FR* 63252) on information that had been obtained from EPA’s effort to assess the structural integrity of surface impoundments. At that time, EPA had completed the assessments and the final reports for 53 units. Since that time, EPA has continued this assessment effort and has posted on its web site (see:

<http://www.epa.gov/wastes/nonhaz/industrial.special/fossil/surveys2/indexhtm>) draft and final reports for a total of 522 units and 209 facilities.

The Agency solicits comments on all this information, including the assessments that were noticed on October 13, 2010, as to the extent to which both the CCR surface

impoundment survey responses and assessment materials on the structural integrity of these impoundments should be factored into EPA's final rule.

IX. Request for Additional Public Comment on Two Technical Issues Related to Surface Impoundment/Landfill Closure and Requirements for Overfills.

EPA received comments in two general areas relating to its proposed rule for CCR management units: (1) the feasibility of complying with the Agency's proposed time frames for closing surface impoundments in the subtitle D option; and (2) how these requirements (as well as the construction and operation requirements) relate to the construction of new CCR overfill units on top of closed surface impoundments or landfills. These specific requirements present some of the most complex and difficult technical issues and are re-opening the comment period for these two issues only. EPA notes however that comments submitted on any other aspect of the proposed technical requirements for CCR management units other than those specifically discussed below will be considered late comments that are not part of the rulemaking record, and the Agency will not respond to them.

A. Closure Time Frames.

Under the subtitle D option, EPA proposed to establish time frames for closing waste disposal units. EPA proposed that closure activities must commence no later than 30 days following the known final receipt of CCRs. The proposed rule also provided that the 30-day deadline to commence closure activities could be extended to one year after the most recent receipt of CCRs if the CCR waste disposal unit had remaining capacity and there was a reasonable likelihood that the CCR waste disposal unit will receive additional CCRs. In addition, EPA proposed that an owner and operator complete

closure activities within 180 days following the start of closure activities. Thus, the maximum amount of time a facility would have to initiate and complete closure of a disposal unit was seven months.

EPA received numerous comments from both states and individual electric utility facilities raising concerns that these time frames would essentially be “impossible to meet” for surface impoundments located in certain geographic and climatic conditions, as well as for the larger units. With respect to the time frames to complete closure, commenters raised concerns that dewatering of very large surface impoundments (*e.g.*, 100 acres or more) can take several years under certain climatic and weather conditions. Concerns were also raised that the time frames for both initiating and completing closure failed to account for the time needed to obtain any state permits or regulatory approvals that might be needed to conduct certain closure activities, and that these time frames were incompatible in light of normal operating practices. EPA’s original proposal was modeled on the closure requirements applicable to municipal solid waste landfills and the interim status requirements for hazardous waste surface impoundments. As discussed in more detail below, the commenters have convinced EPA that it did not adequately account for the complexities inherent in electric generating facility operations, and the different characteristics of CCR surface impoundments in its original proposal. Consequently, EPA is evaluating several different options to address these concerns.

1. Time frame for initiating closure.

To address concerns about “inactive” or abandoned units, EPA proposed to require that facilities initiate closure within 30 days of either (1) the “known final receipt” of waste or (2) no later than one year after the most recent receipt of waste (*i.e.*, if the unit

has not received waste for a year, the owner or operator must initiate closure). EPA is aware of several examples of routine and legitimate circumstances in which disposal units would not receive CCRs for longer than one year, even though the facility intends to continue to use the unit. Although EPA is singling out the information specifically listed below and in the docket for further public comment, it should not be assumed that this information is the full sum of the information received in comments that will be considered or that will influence the Agency's decisions in this rulemaking. Specifically:

- The surface impoundment structural integrity assessment report titled “Assessment of Dam Safety Coal Combustion Surface Impoundments (Task 3) Final Report, Allegheny Energy, R. Paul Smith Station, Williamsport, Maryland” provides an example of a power plant that alternates the use of surface impoundments in order to make the most of existing capacity on-site (*i.e.*, CCRs are removed and re-used/disposed elsewhere). This facility alternates between two surface impoundments, only one of which is operational at a time. Once one impoundment has reached capacity, the facility dewateres the unit, and begins to send CCRs to the second impoundment. Once the unit is dewatered, the CCRs are excavated and disposed in an adjacent landfill. The time to fill these units has varied over the years as demand has fluctuated, but a typical time to fill a unit with CCRs is two years, perhaps longer, during which the other unit is “idle,” in that it does not “receive CCRs,” but it remains operational.

- The surface impoundment structural integrity assessment report titled “Coal Combustion Waste Impoundment Task 3 – Dam Assessment Report, John E. Amos Plant (Site 26), Bottom Ash Dam, American Electric Power, St. Albans, West Virginia” provides another example of a facility that alternates between two surface impoundments, only one of which is operational at a time. According to this report, the active and inactive status alters between the two impoundments every one or two years.
- The information request response from Xcel Energy titled “Response to Request for Information Relating to Surface Impoundments Under 104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9604(e)” contains another example of a facility that alternates use of two surface impoundments, only one of these impoundments is typically active and used at any one time. Xcel Energy’s Valmont Station in Boulder, Colorado practice is to clean out and switch the active pond every year. This report, and the two reports discussed above, can be found in the docket supporting this NODA.

Similarly, some electric generating units may be placed into long-term reserve status or temporarily idled in response to low demand. As a result, associated surface impoundments may not be used for extended periods, but need to be available when the electric generating units are restarted. In addition, facilities that use other fuels than coal may not use the associated coal ash disposal units for extended periods.

EPA agrees that there can be legitimate operational reasons for facilities to maintain waste disposal units even though there may be extended periods where CCRs are not placed in the unit. Consequently, EPA is soliciting comment on possible approaches to address these issues, including all aspects of the alternatives discussed below.

One approach under consideration could be to establish a rebuttable presumption that if the unit has not received waste within a particular time frame, the disposal unit would be considered inactive and unit closure must begin within a specified time. For example, the rule could establish a presumption that facilities must initiate closure within 18 months to two years from the last receipt of waste, unless the facility could document certain findings. These findings could include, but are not limited to, any of the following situations: (1) a written demonstration by the owner or operator documenting that a CCR waste disposal unit is dedicated to a temporarily idled electric generating unit and that there is a reasonable likelihood that CCRs will be disposed in the waste disposal unit after the electric generating unit resumes operation; (2) a written demonstration by the owner or operator documenting that a CCR waste disposal unit is dedicated to an electric generating unit designed to burn coal and another fuel(s) (*e.g.*, natural gas) and the reason that the waste disposal unit has not received CCRs within a particular time frame is that a non-coal fuel is being burned by the electric generating unit and showing that there is a reasonable likelihood that CCRs will be disposed in the waste disposal unit after the electric generating unit resumes burning coal; or (3) a written demonstration by the owner or operator documenting that normal plant operations include periods during which the CCR waste disposal unit does not receive CCRs and that there is a reasonable

likelihood that CCR waste disposal operations will resume in the future. The facility would need to substantiate those findings, which would include the reason why the owner or operator believes “that there is a reasonable likelihood that CCRs will be disposed in the waste disposal unit” (which would also need to be certified by an independent registered professional engineer and/or the waste disposal unit owner or operator), and would be required to notify the state regulatory authority that those findings have been placed in the operating record and publicly posted to the internet.

The approach discussed above does not include a time limit on how long a CCR waste disposal unit could remain idle from the perspective of the unit receiving CCRs. That is, an owner or operator could maintain a waste disposal unit for many years with the expectation of one day resuming CCR disposal operations in the unit. EPA does have concerns about extending the deadline to initiate closure activities using such an approach because, due to the self-implementing nature of the regulations, it is possible that the owner or operator could unilaterally decide to extend closure activities longer than necessary or that would be protective.

Another approach that EPA is considering is to put a limit on how long an owner or operator can maintain a waste disposal unit without placing CCRs in the unit. For example, the rule could establish the rebuttable presumption approach discussed above, but also include a limit on how much time can pass without CCRs being placed in the waste disposal unit before the CCR waste disposal unit must begin closure (*e.g.*, five years). EPA solicits comment on the feasibility and propriety of this approach. Commenters who believe the flexibility provided by the rebuttable presumption approach

is appropriate are encouraged to include examples documenting the need for such flexibility.

2. Time frames to complete closure.

Information that the Agency has received or independently collected since the close of the comment period confirms the commenters' claims that the time frames originally proposed to complete closure of surface impoundments will be practicably infeasible for the largest impoundments.⁹ EPA acknowledges that it will need to establish different deadlines, at least for these larger units. However, any ultimate time frame that EPA provides that would be practicable for the largest units will be far too long to justify the time frames for closure of smaller impoundments. EPA is examining available closure-related information for CCR surface impoundments to determine whether there are consistent time frames or other factors that EPA could adopt as part of the regulations. Although EPA is singling out the information specifically listed below and in the docket for further public comment, it should not be assumed that this information is the full sum of the information received in comments that will be considered or that will influence the Agency's decisions in this rulemaking. Specifically:

- The surface impoundment structural integrity assessment report titled "Coal Combustion Waste Impoundment Dam Assessment Report, Martins Creek Steam Electric Station, PPL Generation, Bangor, Pennsylvania" contains closure-related information for the facility's Ash Basin No. 4.

This 37-acre surface impoundment no longer receives CCRs and is being

⁹ The information available to the Agency indicates that this issue is unique to surface impoundments. EPA is therefore not reopening for public comment the closure time frames for CCR landfills.

formally closed. The closure plan indicates that the dewatering and cap installation process will take approximately three years to complete.

- The proposed plan to close the two surface impoundments at Santee Cooper's Grainger Generating Station as provided in a letter (with attachments) from Santee Cooper to the South Carolina Department of Health and Environmental Control dated March 18, 2013. Under the proposed option, it is estimated that closure of the impoundments (one unit has a surface area of 42 acres and the second unit has a surface area of 39 acres) could be accomplished during a three-year period.
- A paper presented at the 2013 World of Coal Ash Conference titled "Challenges of Closing Large Fly Ash Ponds," which discusses the engineering, regulatory and constructability challenges of closing a 300 acre surface impoundment over a projected four-year period. This report, and the two reports discussed above, can be found in the docket supporting this NODA.

EPA is also considering a variety of approaches for revising its overall regulatory structure. One approach could be to establish categories of time frames that distinguish between impoundments based on a variety of factors. At a minimum, this could include the size of the impoundment, as well as the final volume of material (both CCR and liquid) contained in the unit at the time of closure. For example, some commenters proposed a tiered approach for landfills and surface impoundments that grouped units into four categories: (1) units smaller than 20 acres, would be subject to a one year

deadline to complete closure; (2) units between 20 and 50 acres would be subject to a two year deadline to complete closure; (3) units between 50 and 75 acres would be subject to a three year deadline to complete closure; and (4) units greater than 75 acres would be subject to a “site specific” deadline to complete closure.¹⁰

While the commenters’ tiered approach has appeal, the precise basis for the commenters’ distinctions and the time frames is not clear; at a minimum, factors other than size, such as climate, geography, and waste disposal unit configuration would also appear to be relevant, and any time frames should account for those other factors. EPA solicits comment on ways to establish categories of time frames that take into consideration the various factors affecting the amount of time needed to properly close a surface impoundment, and encourages commenters who are interested in supporting such a tiered approach, to provide the rationale and data to support any suggested categories of time frames. In addition, the Agency believes that the concept of having a “site-specific” deadline may not be practicable, unless EPA were to establish a “variance” process as part of the rule. Under such a variance approach, the rule would establish a specific deadline (*e.g.*, closure must be completed no later than five years from the date closure activities are initiated), but would also allow facilities to petition EPA for a site-specific rule to establish an alternate deadline. This is because, as discussed at length in the proposal, under any subtitle D approach, EPA cannot rely on the existence of a state permitting authority to implement the RCRA subtitle D requirements (since EPA cannot require that states regulate, including issuing permits under RCRA 4004(a)). (75 *FR* at 35193-94)

¹⁰ This tiered approach is presented in docket items EPA-HQ-RCRA-2009-0640-6424 and EPA-HQ-RCRA-2009-0640-6832.

Another approach, similar to the approach EPA is considering with respect to the time frames for initiating closure, would be to establish time frames with a rebuttable presumption. For example, the rule could establish a presumption that facilities must complete closure within a specified time frame, such as, five years, unless the facility could document certain findings, such as the owner or operating providing a written demonstration that closure activities (*e.g.*, eliminating free liquids from the surface impoundment, stabilizing the remaining CCR wastes to support the final cover, constructing the final cover system) are not feasible to complete within the specified time frame. The facility would need to document those findings (which, consistent with the proposal, would also need to be certified by an independent registered professional engineer), and would be required to notify the state regulatory authority that the plan has been placed in the operating record and publicly posted to the internet.

EPA is soliciting comments on whether any of these potential approaches, a combination of them, or other approaches would effectively address the practical concerns raised by the commenters, in a way that could assure that the closure of CCR waste disposal units will protect human health and the environment. EPA is primarily interested in comments that include data or other documentation (*e.g.*, specific closure plans).

B. New CCR Overfills Constructed Over Closed CCR Surface Impoundments or Landfills.

One issue presented in public comments addressed how the Agency intends to regulate CCR landfills, also known as overfills, that are

constructed over a closed CCR surface impoundment or landfill. An overfill is additional CCR disposal capacity located partially or entirely above a surface impoundment or landfill previously used for the disposal or storage of CCRs. Overfills can be defined as new, self-contained units that are distinct and separate from the unit upon which it is located.

EPA is aware of only one state, North Carolina, that has specific regulatory requirements for the design and construction of overfills. In 2007, North Carolina enacted design requirements for CCR landfills, *i.e.*, overfills constructed partially or entirely within areas that have been formerly used for the storage or disposal of CCRs. These management units are required to be constructed to ensure that the upper unit (*i.e.*, overfill) does not leach into the lower unit (*i.e.*, closed surface impoundment or landfill). By reducing infiltration, contaminants will not spread through to the lower unit and to the groundwater. North Carolina requires the installation of a double-liner leak detection system consisting of three components. The upper two components consist of two separate flexible membrane liners with leak detection between the two liners. The third component consists of a minimum of two feet of soil underneath the bottom of the liners, with a maximum permeability of 1×10^{-7} centimeters per second. Additionally, North Carolina requires the development of a response plan that describes the circumstances under which corrective action measure is to be taken at the overfill in the event of the detection of leaks in the leak detection system.

In developing the proposed rule, EPA was not aware that CCRs were managed in this fashion (*i.e.*, in overfills), and so we did not either evaluate this

specific management scenario or propose technical requirements specifically tailored to this type of management unit. Under the proposed rule, these types of units would need to comply with both the requirements applicable to the closure of surface impoundments or landfills, and with all of the technical requirements applicable to new landfills. For example, this would include the location and design requirements applicable to new landfills (*e.g.*, composite liners) as well as the operating requirements (*e.g.*, groundwater monitoring).

Since the close of the comment period, the Agency has learned that the practice of constructing overfills for the disposal of CCRs is conducted with some regularity. EPA has also obtained additional technical information, which is included in the docket supporting today's NODA on how these units are typically designed and operated, which has raised questions as to whether these types of units would be effectively regulated under our proposed technical requirements.¹¹

All of the information collected to date leads the Agency to believe that technical issues unique to these units may warrant some modifications to the technical standards. At a minimum, this could include changes to the technical

¹¹ Seymour, J. and Houlihan, M. F. (2011) Advances in Design of Landfills Over CCR Ponds and CCR Landfills, *Proceedings of the e 2011 World of Coal Ash (WOCA) Conference* – May 9-12, 2011, Denver, Colorado, <http://www.flyash.info/>.

Schmitt, N. and Cole, M. (2013) Use of Bottom Ash in the Reinforced Zone of a Mechanically Stabilized Earth Wall for the Vertical Expansion of a Sluiced CCR Pond at the Trimble County Generating Station. *Proceedings of the 2013 World of Coal Ash (WOCA) Conference* – April 22-25, 2013, Lexington, KY <http://www.flyash.info/>.

Houlihan, M., Advances in Design of Landfills Over CCB Ponds and Landfills. 16 January 2013.

North Carolina statute allowing landfills on top of surface impoundments. <http://law.onecle.com/north-carolina/130a-public-health/130a-295.4.html>

Docket item EPA-HQ-RCRA-2009-0640-6877. Comment to the proposed rule from The Detroit Edison Company.

requirements to clarify how they apply to overfills (*e.g.*, revisions to the definition of a “new unit;” clarifications as to how the liner requirements for the new landfill relate to the capping requirements for closed units). This could, however, also include substantive modifications to the technical standards and the development of a tailored set of requirements specific to this kind of disposal unit. Specifically, this could include substantive modifications to the location restrictions, design criteria, inspection requirements, groundwater monitoring, and closure.

To aid in the development of final requirements, EPA is soliciting data or information that directly addresses existing engineering guidelines or practices, as well as any regulatory requirements (other than North Carolina’s) governing the siting, design, construction and long-term protectiveness of these units. In addition, the Agency is specifically requesting information or data that would allow EPA to address the following set of questions as they relate to CCR overfill units.

- Are the location restrictions included in the proposed rule adequate to ensure protection of human health and the environment or should they be adjusted? For example, should the Agency consider prohibiting the construction of such overfills in certain locations or situations, such as over surface impoundments and landfills that were not closed in accordance with the closure criteria in the June 2010 proposed rule?
- Should the Agency allow for a CCR overfill unit to be constructed over a partially closed surface impoundment or landfill? If so,

would the proposed technical requirements for new units (*e.g.*, composite liners) be adequately protective? Are the ground water monitoring requirements that were proposed in the CCR proposal adequate or are there situations where they could they be inadequate?

- Are there situations where implementing the proposed ground water monitoring requirements would create the potential to damage the integrity of the closed surface impoundment or landfill? In situations where an overfill is constructed partially over a closed landfill or surface impoundment, the proposed rule would require the placement of the groundwater monitoring wells at the waste boundary (*i.e.*, at the boundary of the overfill). This placement, within the parameter of the closed unit, could possibly jeopardize the integrity of the closed unit (*e.g.*, cause damage to the liner). Would this problem be adequately resolved by allowing the groundwater monitoring wells installed to monitor the “closed” landfill or surface impoundment to operate in lieu of separate groundwater monitoring wells at the overfill waste boundary? Should ground water monitoring be required for a longer period, since contamination could be released from the closed surface impoundment or landfill, as well as the overfill unit?
- Should the Agency allow for a CCR overfill unit to not meet the liner and leachate collection requirements if the closed surface

impoundment or landfill was equipped and continued to maintain a composite liner and leachate collection system as well as groundwater monitoring? Conversely, should the Agency require an overfill to have a double-liner leak detection system installed and forego groundwater monitoring until such time as a leak of the primary liner is detected?

- Should overfills be subject to the same inspection requirements that EPA originally proposed for surface impoundments (see proposed section 257.83, requiring weekly inspections by qualified personnel and annual inspections by an independent registered professional engineer). Would this adequately address any issues relating to the long-term structural integrity of these units and whether their inherent stability will be maintained through the active life of the unit as well as during post closure care. As an alternative, would it suffice to only require annual inspections of the overfill? Would it matter if the inspection requirement was paired with a revised certification in the locations restrictions section of the rule? How long should any inspection requirement continue under post-closure care?

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